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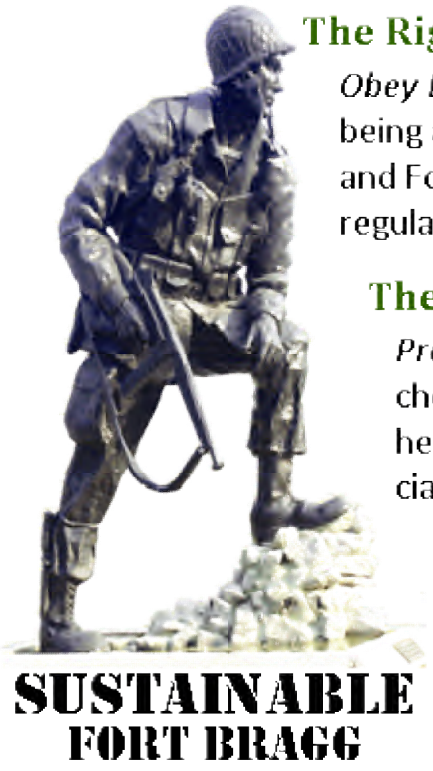
Document Title: **INTEGRATED PEST MANAGEMENT PLAN**		
Document Owner: TOMMIE CAMPBELL **Approved By:** GARRISON COMMANDER	**Update requirements:** ANNUALLY	**Note:** **EFFECTIVE DATE IS THE DATE A BRANCH CONTROL NUMBER WAS FIRST APPLIED**



SUSTAINABLE FORT BRAGG

The Right Way...

Obey Environmental Laws by being aware of federal, state and Fort Bragg environmental regulations.

The Green Way...

Practice Pollution Prevention by choosing actions to safeguard health, the environment, financial and natural resources.

All the Way!

Keep Improving by being aware of the long-term impacts of your actions and choosing to minimize them.

Record of Changes

Revision Number	Revision Date	Summary of changes	Approved By
0	5/19/2009	CONTROL NUMBER APPLIED (IN REVIEW)	T. CAMPBELL

PEST MANAGEMENT PLAN

FOR

HEADQUARTERS U.S. ARMY GARRISON Fort Bragg
Fort Bragg, North Carolina 28310

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EXECUTIVE SUMMARY

Fort Bragg, including Camp Mackall consists of approximately 160,839 acres located on an irregularly shaped parcel of land. The reservation is located 10 miles northwest of downtown Fayetteville, North Carolina, in the sandhills or upper coastal plain region of the central portion of North Carolina. Included on post are 85 ranges, 24-drop zones, 30,000 acres of impact areas, and 21 miles of bike trails, 487 miles of firebreaks, and eight independent schools. Approximately 4758 permanent and temporary buildings on Fort Bragg total 28,232,987 square feet. A 1983 Department of the Army Land use and requirement Study identified a shortfall of maneuver training land and range impact area of 154,150 acres. The Overhills Tract was purchased in 1998 with an additional 11,000 acres for training.

The primary mission of Fort Bragg is the training, logistical planning, and mobilization deployment of the XVIII Airborne Corps and Fort Bragg. The major units assigned to Fort Bragg maintain a level of readiness that facilitates their deployment to any part of the world on a very short notice. The mission capability of Fort Bragg is further enhanced by the collocation of Pope Air Force Base.

The contents of this plan apply to all activities and individuals working, residing or otherwise doing business on this installation, and will be implemented to the maximum extent possible. At no time will pest management operations be done in a manner, which will cause harm to personnel or the environment. Pest management responsibility will begin with those individuals, which occupy or maintain buildings or open space on the installation. Nonchemical control efforts will be used to the maximum extent possible before pesticides are used. This plan will be a working document and will be continually updated to reflect actual pest management practices.

The pest management plan for Fort Bragg describes the installation's pest management requirements, outlines the resources necessary for surveillance and control, and describes the administrative, safety and environmental requirements of the program. The program uses certified contract management technicians to control pests. Pests included in the plan are weeds and other unwanted vegetation, termites, mosquitoes, crawling insects (ants, crickets, cockroaches, etc.) and spiders, mice, gophers, and other vertebrate pests. Without control, these pests could interfere with the military mission, damage real property, increase maintenance costs and expose installation personnel to diseases. Actual pest management procedures are found in the Integrated Pest Management Outlines included as Appendices A and B.

Department of the Army

Headquarters, U.S. Army Garrison Fort Bragg

Pest Management Plan
2009

Prepared By: **TOMMIE W. CAMPBELL** _____ _____
Installation Pest Management SIGNED DATE

Reviewed By: **David Heins** _____ _____
Chief, **Environmental Division** SIGNED DATE

Gregory G. Bean _____ _____
Director, **DPW** SIGNED DATE

Herb Bolton _____ _____
Army Senior Consultant SIGNED DATE
Aberdeen Proving Ground, Maryland 21010-5401

Approved By: **Lloyd Austin** _____ _____
LTG, USA SIGNED DATE
Commander

A. BACKGROUND.

1. **Purpose.** "This plan describes a comprehensive Integrated Pest Management (IPM) program for Fort Bragg." IPM is a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools in a way that minimizes ecomic, health, and environmental risks. Federal Agencies are manadated by Federal Law (Section 136 r-1 of Reference N. (1) (a) to use IPM. This plan is a guide to reduce reliance on pesticides and to enchance environmental protection; it reflects current DOD/Army polices, procedures and standards and incorporates the requirements of the Enviromental Protection agency (EPA) and the State of North Carolina. **Authority.**
   a. Reference "(a): "Section 136 et seq. Of title 7, United State Code, "Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)" as amended."
   b. DoD Dir 4150.7, DoD Pest Management Program, 24 October 1983.
   c. AR 200-1, Environmental Enhancement.
2. **Program Objective.** This plan provides guidance for operating and maintaining an effective pest management program. Principles of integrated pest management are stressed in the plan. Integrated pest management (IPM) consists of the judicious use of both chemical and nonchemical control techniques to achieve effective pest management with minimal environmental contamination. 'Adherence to the plan will ensure effective, economical and environmentally acceptable pest management and will maintain compliance with pertinent laws and regulations.

B. RESPONSIBILITIES.

1. Garrison Commander.
   a. Designate a Pest Management Coordinator for all pest management activities.
   b. Approve and support the pest management plan.
   c. Ensure that installation personnel performing pest control receive adequate training, and achieve pest management certification as required.
   d. Ensure that all pest management operations are conducted safely and have minimal impact on the environment.
2. **Director of Public Works (DPW).**
   a. Determine the pest management requirements for the installation.
   b. Initiate requests for aerial application of pesticides when necessary.
   c. Request and monitor contract pest management operations.
   d. Obtain and maintain adequate supplies of pesticides and pesticide dispersal equipment, and ensure that equipment is properly maintained.
   e. Maintain adequate records of pest management operations.
3. **Director of Morale and Welfare (DMW).**
   a. Obtain and maintain adequate Golf Course supplies of pesticides and pesticide dispersal equipment, and ensure that equipment is properly maintained.
   b. Ensure that Golf Course personnel performing pest control receive adequate training, and achieve pest management certification (if required).
   c. Maintain adequate records of pest management operations.

4. Womack AMC.

a. Preventive Medicine Service.

(1) Conduct surveillance for pests which could adversely affect the health and welfare of the installation.

(2) Coordinate with local health officials to determine the prevalence of disease vectors and other public health pests in the area surrounding the installation.

(3) Monitor pesticide sales at the Commissary and the Post Exchange.

(4)Evaluate the health aspects of the pest management program.

b. Veterinary Services.

(1) Conduct surveillance for pests which destroy food stored in installation facilities.

(2) Provide advice to pet owners concerning pests which may adversely affect their animals.

5. Pest Management Coordinator.

a. Prepare, monitor, and update the installation pest management plan.

b. Coordinate with activities conducting pest surveillance or controlling pests to ensure all applicable information is recorded and reported as required by this plan. Monitor the sale and distribution of pesticides on the installation.

c. Function as a point of contact between those individuals who store and apply pesticides (e.g., public works, golf course, pest control contractors, and tenant-activities) and activities or individuals who document or deal with pesticide use in their programs (e.g., Environmental Office, Safety Office, Fire Department, Industrial Hygienist).

d. Oversee the technical aspects of the self-help program with respect to pest control items and training of family housing residents.

e. Monitor certification and continuing pest management training for pesticide applicators on the installation.

f. Coordinate and monitor contracts dealing with pesticide application and keep a copy of each contract on file.

g. Coordinate with local, State and Federal agencies, as necessary, to conduct the installation's pest management program.

h. Provide answers to questions concerning pest management from the installation Garrison Commander, and Army Environmental Center (AEC).

6. Building Occupants.

a. Apply good sanitary practices to prevent pest infestations.

b. Use all nonchemical and chemical pest control techniques available through the self-help program to the fullest extent before requesting further assistance from Public Works.

c. Apply only those pesticides approved for use by Public Works.

d. Cooperate fully with Public Works personnel and contractors in scheduling pest management operations, to include preparing the areas to be treated.

7. Pest Management Personnel.

a. Use integrated pest management techniques to the maximum extent possible.

b. Control pests according to the provisions of this plan.

c. Operate in a manner that minimizes risk of contamination to the environment and personnel.

d. Ensure that superiors are kept informed of changes in pest management requirements.

e. Request pest management supplies and equipment in a timely manner.

f. Maintain effective liaison with installation health and environmental officials.

C. GENERAL.

1. Installation Description.

a. Fort Bragg is located 10 miles northwest of downtown Fayetteville, North Carolina, in the sandhills or upper coastal plain region of the central portion of North Carolina. Fort Bragg is 90 miles west of the Atlantic Ocean, 50 Miles southeast of Raleigh, 100 miles east Charlotte, and 142 miles northeast of Columbia, South Carolina. Fort Bragg is among the largest and busiest military installations in the world, employing approximately 50,000 soldiers and civilians. Cumberland County, especially Fayetteville and Spring Lake, experiences the greatest impact. Over 37,700 post-related households live in the county; 17,000 of them in Fayetteville and 2,400 in Spring Lake. Post-related population accounts for a third of the county's population, 49 percent of Fayetteville's population, and 76 percent of Spring Lakes' population. There are over 5,000 housing units and several hundred new units under construction within the installation which are occupied by military personnel and their dependents. The surrounding lands are primarily rural-residential and woodland. Generalized maps of Fort Bragg can be found on file in the Environmental Management Section. The majority of the reservation is an undeveloped rural area used for military training, weapon ranges, and parachute drop zones. Much of the training area is woodlands. The area is characterized by a humid, subtropical climate with hot summers and mild winters. Rainfall is evenly scattered throughout the seasons, averaging 43 inches annually.

b. Detailed topography descriptions, geology, hydrology, climate, major soil association, vegetation, petroleum, minerals, and soil types found on Fort Bragg are recorded in the 1984 USDA "Soil Survey of Cumberland and Hoke Counties North Carolina" which is maintained in the pest control facility, Bldg, 3-1137, commercial phone, (910) 907-2160 or DSN 337-2160. Wetlands data are maintained by the Natural Resources Division located in Bldg 0-9062. The point of contact for wetland information is Eric Hoffman, (910). 396-2867 Wildlife Biologist. Endangered and Protected Species data are maintained by the Endangered Species Branch, Bldg.0-9125. The point of contact is Jackie Britcher, (910) 396-5325. Chief Endangered Species Branch. Topographical maps and the Fort Bragg handbook "Environmental Quality 1992-1993, are also on file in the Environmental Office, Building 3-1933, (910) 396-3341. As necessary, these documents are used whenever pesticide application is considered in order to evaluate the potential fate and impact on natural-resources. All referenced data is currently being reproduced and will be maintained in the pest control facility upon receipt.

2. **Inventory of Land Use and Layout of Facilities.**

a. Inventory of Land Use. There are three categories of grounds on Fort Bragg. These are: improved, unimproved, and woodlands. All Real Property information is gathered on an annual basis by the Real Property Planning Division, Bldg. 3-1634, (910) 396-6761. Contact Glenn Prillaman, Chief, Property Planning Division, for information and periodic updates as Fort Bragg is constantly growing.

(a.) Improved Grounds. Improved grounds include acreage on which intensive maintenance activities are planned and performed annually as fixed requirements. These activities include pest management, mowing, irrigation, dust and erosion control, drainage, planting for landscape effect and other intensive practices.

b. Fort Bragg contains a total of approximately 10,600 acres of developed land which requires intensive annual maintenance. Summaries of the breakdown of Ground area/developed land are found in Tables 1&2, below. The following tables are subject to change.

Table 1. Square Feet By Facility Classification Requiring Annual Maintenance

BUILDING CLASS (CAT)	#BLDG	*FT BRAGG	MACKALL	USAR	TOTAL
H20 Distribution	4	7,271			7,271
Airfield & Heliport	1	351			351
Training Trailers	244	822,402	19,695	351,745	1,195,319
Maint & Prod	249	2,223,402	2,237	61,116	2,286,755
Research	6	39,842			39,842
Str Amo,	345	1,895,427	3,774	36,001	1,935,202
Trailers (441,442)	2	1,296			1,296
Hospital	27	561,147	1,800		562,947
Admin (610)	187	1,426,219	14,838	23,287	1,464,344
Trailers (610)	40	42,372			42,372
Bach Housing	614	6,675,015	67,525		6,742,540
Trailers (721-724)	2	3,168			3,168
Community (740)	222	1,828,857	5,750	255	1,852,665
Trailers	2	3,168			3,168
Other Bldgs	403	1,951,178	5,398		1,956,732
Trailers	4	2,088	255		7,968
Family Ho.	2,749	7,456,988	1,857		7,458,845
Trailers	1	947			947
Misc, Guard Towers	63	34,319	106		34,521
Trailer	1	648			648
TOTAL:	**5,166**	**24,982,924**	**124,756**		**25,599,616**

NOTE: 2.47 Acres = 1 Hectare

Table 2. Breakdown of Grounds (Improved, Unimproved, and Woodland) by Acre

	*FT BRAGG	MACKALL	USAR	TOTAL GROUNDS

Improved	10,302	321		10,694
Unimproved	18,525	567		19,092
Woodland	113,298	6,020		119,415
TOTAL:	142,125	7,792		149,201
NOTE: 2.47 Acres = 1 Hectare				

(2) **Unimproved Grounds.**

a. Unimproved grounds include areas under buildings and surfaced areas. Activities on unimproved grounds do occur, but not on a regular basis, and are generally unpredictable depending upon mission activities.

b. There are approximately 15,365 acres of unimproved land at Fort Bragg which requires little or no maintenance.

3. Woodlands.

a. Woodland grounds include forest land, much of the training areas, and involve all other acreage not-classified in the two previous categories. Activities on woodland grounds do not occur and are generally unpredictable depending upon mission activities and changing conditions due to flood, fire, insects and other variables.

b. There are commercial forest stands on Fort Bragg and the feasibility of continuing future forest harvesting is reviewed on a periodic basis. Twenty to twenty-five pine straw contractors operate on Fort Bragg on an annual basis and timber operations may consist of 4 or more contractors and agent at any one time. An active firewood collection program also exists on Fort Bragg. Fiftty to sixty thousand acres of woodland are control burned on an annual basis. Timber stand improvement and prescribed burning are only two facets of this prodigious effort. Contact Joe Stancar, Chief, Forester Branch, Bldg. OT-9062, (910) 396-2510, for program information.

1. Layout of Facilities. The majority of present installation activities and most base improvements and facilities are located in the northeast (main post) and southwest (Camp Mackall) portions of Fort Bragg. The geographic regions on Fort Bragg are:

a. Main Post - About 21 square miles, or 10 percent of the total land area at the east end of Fort Bragg is developed and includes the cantonment area (main post). Fort Bragg's Cantonment area is located in Cumberland County. The Fort Bragg population profile includes approximately 175,000 persons including over 44,000, active duty military and 128,705 retirees and dependents, and civilian workers. Approximately 5000 permanent and temporary buildings on Fort Bragg total 24,781,349 square feet.

b. Training Areas - Training Areas comprise approximately 70% of Fort Bragg's acreage and includes 85 ranges. Due to the closing of other installations and restructuring of training an already identified land shortfall is very likely to increase.

c. Drop Zones - There are 24 parachute drop zones on Fort Bragg. These areas are clearly identified on installation land use maps which can be found in both environmental and pest control offices. The main drop zones are located surrounding the central portions of Fort Bragg.

d. Other Restricted Areas - Consists of 30,000 acres of impact area.

e. Collocation of Pope and Simmons Air Force Bases and adjoining jurisdictions - the mission capability of Fort Bragg is enhanced by the collocation of Pope Air and Simmons Force Bases. Pope Air Force Base is located in the northeast section and is adjacent to Fort Bragg. Simmons Air Force Base is in/and

adjacent to the eastern section of the reservation. In total, Fort Bragg abuts and or politically interacts with the following jurisdictions:

(1) Cumberland County

(2) The Town of Spring Lake

(3) The City of Fayetteville

(4) Harnett County

(5) Hoke County

(6) Scotland County

(7) Lee County

(8) Richmond County

(9) Moore County

(10) Pope Air Force Base

(11) Eureka Springs

3. Plan Maintenance.

a. This pest management plan is maintained by Tommie W. Campbell, Installation Pest Management Coordinator. Pen and ink changes are made to the plan throughout the fiscal year. The plan is reviewed and updated annually to reflect all changes made in the pest management program during the fiscal year.

b. Annual updates of this plan is AEC for review and technical approval NLT 1 October each year.This annual update includes a pesticide use proposal for the following year

D. PRIORITY OF PEST MANAGEMENT. From early March to late November, roaches, bees/wasp, ants, flies, and fleas constitute the most important pests from the standpoint of general annoyance. Ticks, bees/wasps, and mosquitoes constitute the most important pests from the standpoint of disease transmission or medical threats.

1. **Household and Nuisance Pests.** Flies and crawling insects (ants, cockroaches, crickets, beetles, etc.) and spiders may require control in billets, family housing, food service facilities, warehouses, offices and other administrative buildings.

   a. Cockroaches: Cockroaches are very common pests on Fort Bragg. The units are inspected and treated, if necessary between and throughout each occupancy. Dining facilities and food service areas are inspected by Preventive Medicine on a monthly basis and treated where problems occur only after surveillance. The most common places for roaches are food service areas and housing. Cockroaches make up approximately 40 percent of the pest management workload which is nearly divided evenly between surveillance and control. The remainder of the pests in this category constitutes minor pest problems on the installation. Proper sanitation and housekeeping will do much to discourage these pests.

   b. Bees and Wasps: Bees are second only to roaches from a nuisance perspective.

   c. Flies: Flies are nuisances during the summer and early fall. Control of flies is primarily through elimination of breeding habitat, prevention of entry into buildings, high sanitation levels, cleaning dumpster boxes, and timely disposal of wastes. At the golf course, fly breeding sites will be minimized by spreading grass cuttings on the ground to dry rapidly. Serious problems are treated after hours.

d. Spiders: Spiders are very common in the housing units (household spiders). Outdoor spiders are treated with a residual spray. Inside spiders are destroyed by hand and a crack and crevice treatment is used around baseboards and window frames.

e. Fleas: Fleas sometimes are a problem, mainly in Family Housing units that have pets. The pesticides used for flea control can be found in the flea pest outline in appendix A, this document. They do a fine job and very seldom is there a need to return within an unreasonable amount of time.

f. Ant (Pharaoh): Ants are very common on Fort Bragg, especially in the older wooden and stone buildings. Pharoah ants are treated with pesticide dust or some other form of pesticide. Most of the calls come from the hospital and administrative buildings.

g. Ant (Thief): Thief ants are a problem year-round. They are in most buildings on post.

h. Ant (Fire): Fire Ants are distributed over the installation. The Red and black varieties of the-imported fire ant have a powerful sting. The sting leaves a pustule at the site of venom entry. The pustule may be long lasting and may eventually leave a scar. In those individuals who are sensitive to insect venom, reactions may include nausea, vomiting, dizziness, perspiration, cyanosis and asthma, leading to anaphylactic shock.

i. Bird Mites: Bird mites sometimes infest Family Housing units or offices mainly because the people who work or live there will not allow immediate bird nest removal before they infest the building. Mites are controlled in conjunction with bird and nest removal.

j. Crickets: Crickets are a common pest in the family housing and office areas on Fort Bragg.

k. Earwigs: Earwigs are a seasonal problem on Post, lasting typically about six weeks in early fall and mainly in family housing. They live under the slabs and eaves of houses. Units are treated with a labeled pesticide and occupants are encouraged to keep the vegetation down around the house and debris cleaned up to control them.

2. <u>Disease Vectors and Medically Important Arthropods.</u>

a. Ticks: Lyme Disease and Rocky Mountain Spotted Fever may be transmitted by species of ticks native to North Carolina. Ticks are not a problem on Fort Bragg; however, they are a significant concern at training sites, in housing areas, and sites where maintenance personnel cut brush and weeds during the summer months. The US Army Center for Health Promotion and Preventive Medicine - North (CHPPM-N) provides support in conducting surveillance. Ticks can be controlled by clearing brush and weeds, using repellents, and visual inspection of oneself after exposure. For severe infestations, chemical control may be necessary. Units training on Fort Bragg are required to maintain adequate field sanitation teams and supplies.

b. Bees/wasps: Bees and wasps are found throughout the installation. The stings are painful and cause allergic reactions in some people. These insects are an increasing problem on Fort Bragg. Carpenter bees and wasps are a continuous problem during the months of May, June, July, and August. Yellow jackets, hornets, carpenter bees, and wasps invade Fort Bragg. About five to ten nests a day are removed in July, August, and September. Nests are either treated or removed by hand. Carpenter bee holes are sprayed and then caulked.

c. Mosquitoes. Fort Bragg does not have a significant mosquito problem. Any treatment for mosquito control will be initiated upon the recommendation of installation-medical personnel. Good weed control and having no water breeding sites keep them to a minimum.

(1) Mosquitoes are minor pests of medical concern on Fort Bragg. Some mosquito breeding takes place on the installation (e.g., artificial containers and small temporary pools of

water) and most of the mosquitoes which bite installation personnel come from these sources. Several viruses may be potentially transmitted by species found on Fort Bragg.

(2) Adult mosquitoes rarely require fogging for control on the main post area. When required, residual insecticides are applied to vegetative mosquito resting areas. If mosquito-borne diseases are found in the counties surrounding the installation, based on sureveillance, larval control may be expanded to include knowned or potential mosquito breeding sites. If required Fort Bragg will provide equipment and larvacide for mosquito control in contracted and off post supported areas. This includes all other supported DOD areas that do not belong to Fort Bragg. Coordination for mosquito control on the lakes is discussed in paragraph I, this plan.

d. Rodents: Rodents may transmit disease or contaminate food. There are no rodent problems in stored products food warehouses on this installation. Rodents' problems on Fort Bragg are limited to areas where there has been a breakdown of sanitation. Mice are controlled with snap traps, glue boards, rodenticides; and by eliminating holes, cracks and other entry areas.

e. Spiders: There is the potential to find Black widow *(Latrodectus mactans)* and Brown Recluse *(Loxosceles reclusa)* spiders in undisturbed places in warehouses, family housing storage areas, and in and around other buildings. Although these spiders are poisonous, few, if any, problems are encountered by Fort Bragg personnel. Bites are reported by the Health Clinic.

f. Snakes: Snakes are a very minor problem in early spring, summer, and fall in both training and housing areas. Several types of poisonous snakes may be encountered, especially in training areas. Soldiers are briefed and trained to avoid contact with all snakes. Any bite is treated as a potential medical emergency.

3. **Real Property Pests (Structural/Wood Destroying Pests).** This category includes subterranean termites, powder post beetles, and carpenter ants. The termites are the most detrimental for their ability to destroy wood in structures. The damage done by other structure pests, such as powder post beetles and carpenter ants, is not a regular occurrence. The inspection process identifies infested structures. Control of structural pests occurs in a timely manner; however treatments will be backlogged for accomplishment during winter months if circumstances preclude immediate resolution. Subterranean termites cause damage to wooden buildings and other Structures on the installation. Annual surveys of wooden structures and treatment when termites are found has kept damage to a minimum. Carpenter ants occasionally invade wooden structures, particularly where wet conditions exist.

a. Termites: Termites have been identified as the only structural pest requiring control at Fort Bragg. All wood buildings and structures shall be visually inspected on an annual basis to determine termite presence if possible. Survey procedures include crawl space investigation, as well as inspections of internal areas of each building.

b. Carpenter Ants: Carpenter ants are potential threats in most of the older buildings on Fort Bragg because they either have a wood frame stone construction or have aluminum siding. In family housing, ants are treated with pesticide spray or powder. Carpenter ants usually nest in damp wood and in-between aluminum Biding.

c. Powder Post Beetles: Over the years, powder post beetles in structures have not been excessive. Most of the time the old wood is replaced, which then eliminates the problem.

4. **Animal Pests.** Raccoons, foxes, cats, dogs, squirrels, snakes, and bats can appear anywhere on Fort Bragg. Trapping and exclusion from structures is used to contain or control these animals.

a. Rodents: Mice and rats occasionally invade buildings. Gnawed materials in certain instances reveal the time when the rats were present, badly damaged goods usually indicate the presence of large amounts of mice. The presence of dead mice may be due to poison, disease, or fighting.

b. Snakes are present in virtually every conceivable habitat in the world. This includes Fort Bragg. Snakes in housing areas are controlled using good sanitation and mechanical control methods.

c. Birds: Birds are a problem on Fort Bragg year-round. The major problem occurs during the hatching season when they get into the vents in family housing and under the eaves of the administration buildings. Sometimes they filter into the buildings and have to be removed. Ducks on lakes and ponds are not a problem.

d. Stray dogs and cats occasionally need to be captured on the installation. Stray animal control in the main post area is accomplished by the Pest Control Manager and/or Military Police. Foxes and raccoons occasionally enter family housing areas to prey on small pets.

e. Moles also exist on Fort Bragg and are protected from poisoning by state law.

5. **Stored Products Pests.** Food items stored in the Commissary and Commissary warehouses, the Troop Issue Support Activity, the AAFES Shoppette, and food stored in food service facilities may become infested by stored products pests. Occasional complaints are received from family housing residents, but insect infestations usually originate in the home. On occasion, stored products insects are found infesting the Commissary; cleanup and insecticide treatments usually eliminate this problem. Some of the pests found in stored food in the past include: saw-toothed grain beetles, red flour beetles, rice weevils, Indian meal moths and other dermestids.

6. **Ornamental Plant and Turf Pests.** Trees and shrubs on Fort Bragg can be infested by various insect pests, resulting in damage or destruction of the plants. Bagworms and other pests have caused minor problems annually and have required mostly mechanical control on the installation in recent years. Pests which damage lawns and the golf course do cause damage and require continuing surveillance and control. See Golf Course Plan Outlines, Appendix B.

a. Bagworms: Bagworms occasionally attacks junipers and cedars. These pests require treatment usually in late July on an annual basis.

b. White Grubs: White Grubs are a pest of turf such as on parade fields and yards.

c. Fall Webworm: The fall webworm has become a minor problem on Fort Bragg in pecan trees around housing and improved grounds areas. Webworms are controlled by cutting them out and spraying if needed. This concern is usually recognized and treated before residents call for support.

d. Tent Caterpillars: Tent Caterpillars also are a concern on Fort Bragg. They can be found in pecan and cherry trees around housing and improved grounds areas. Tent Caterpillars are controlled mechanically by direct removal. Spraying is avoided. This concern is also usually recognized and treated before residents call for support.

7. **Undesirable Vegetation and Microbial Organisms.** Weeds along fence lines, on road shoulders, paved surfaces (including runways), etc. require control using appropriate herbicides. Some control of unwanted plants is done mechanically (mowing, weedeaters, etc.). Turf, soil, tree and shrub maintenance are by contract. A certified agronomist works with the contractor on a daily basis. If disease is found in trees or ornamentals, the Pest Controller works very closely with Roads and Grounds to see what can be done. The Department of Agriculture and local state universities provide literature and assistance when needed. Most problems are controlled soon after discovery in order to avoid serious problems.

a. Aquatic: Fort Bragg has 9 lakes and ponds which are periodically stocked with fish. The lakes and ponds are treated when needed for algae and weed control.

b. Miscellaneous: Broadleaf weeds and grasses are a problem on the golf course (see Appendix B).

8. **Other Pest Management Requirements.** Pest management technicians are responsible, in conjunction with the Military Police, for carcass removal. In addition, the pest management technicians provide services for odor control in buildings and other structures on the installation. Odors may arise from: dead animals in walls, crawl spaces, etc.; decaying vegetation, molds and fungi; or from other sources.

9. **Quarantine Pests.** Occasionally, household goods may contain Gypsy Moths. When Required, the local USDA inspector checks incoming materials for the presence of eggs, larvae, or adult moths which are usually found on outdoor furniture or swing sets. Retrograde cargo may be encountered infrequently, and will be inspected for pests on an individual basis.

E. **INTEGRATED PEST MANAGEMENT (IPM).** "Integrated pest management(IPM) is a sustainable approach to managing pests by combining bioligical, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks. Federal Agencies are manadated to use IPM by Public Law."

1. IPM Principles. The four basic principles described below are the heart of IPM, and are descriptive of the philosophy used at Fort Bragg to manage pests; specific IPM measures can be found in the IPM Outlines. While any one of these methods may solve a pest problem, often several methods are Used concurrently, particularly if long term control is needed. For example, screens may be used to prevent mosquitoes from entering buildings, breeding areas may be filled in or drained to eliminate larval habitat, and pesticides may be used to kill adult mosquitoes. Screens will protect people inside, but do little to keep people from being bitten outdoors. Larval control may eliminate mosquito breeding on the installation, but may not prevent adult insects from flying onto the installation from surrounding areas. Chemicals may kill most of the flying mosquitoes, but may miss others. Although chemical control is an integral part of IPM, nonchemical control is stressed. Chemical control is almost always a temporary measure and, in the long run, more expensive. Nonchemical control, which may initially be more expensive than chemicals, will usually be more cost effective in the long run. Nonchemical controls also have the added advantage of being nontoxic, thereby reducing the potential risk to human health and the environment.

a. Mechanical and Physical Control. This type of control alters the environment in which a pest lives, traps and removes pests where they are not wanted, or excludes pests. Examples of this type control include: harborage elimination through caulking or filling voids, screening, mechanical traps or glue boards, and nets and other barriers to prevent entry into buildings.

b. Cultural Control. Strategies in this method involve manipulating environmental conditions to suppress or eliminate pests. For example, spreading manure from stables onto fields to dry prevents fly breeding. Elimination of food and water for pests through good sanitary practices may prevent pest populations from becoming established or from increasing beyond a certain size.

c. Biological Control. In this control strategy, predators, parasites or disease organisms are used to control pest populations. Sterile flies may be released to lower reproductivity. Viruses and bacteria may be used which control growth or otherwise kill insects. Parasitic wasps may be introduced to kill eggs, larvae or other life stages. Biological control may be effective in and of itself, but is often used in conjunction with other types of control.

d.Chemical Control. Pesticides kill living organisms, whether they be plants or animals. At one time, chemicals were considered to be the most effective control available, but pest resistance rendered many pesticides ineffective. In recent years, the trend has been to use pesticides which have limited residual action. While this has reduced human exposure and lessened environmental impact, the cost of chemical control has risen due to requirements for more frequent application. Since personal protection and special handling and storage requirements are necessary with the use of chemicals, the overall cost of using chemicals as a sole means of control can be quite costly when compared with nonchemical control methods.

2. **IPM Outlines.** Integrated Pest Management Outlines may be found in Appendices A and B. Each major pest or category of similar pests is addressed, by site, in separate outlines. New outlines will be added to Appendices A or B as new pests or sites are encountered that require surveillance or control.

3. Annual Workload for Surveillance, Prevention, and Control. The number of manhours expended for surveillance, prevention, and control of pests on Fort Bragg is currently under review and will be placed in Appendix D, this document, at a later date.

F. HEALTH AND SAFETY.

1. Medical Surveillance of Pest Management Personnel. All personnel who apply pesticides on the installation (excluding self-help pest management) are included in a medical surveillance program. This program consists of the following elements:

   a. An initial, pre-employment physical examination is conducted to establish that the individual is physically capable of wearing a respirator (if required) and to establish a baseline red blood cell (RBC) cholinesterase level. This physical examination also includes liver and kidney function tests, a complete blood count and a respiratory evaluation. A physical examination of the same scope as the initial examination is conducted annually. A list of personnel, who are monitored, as stated above, can be found in table 5, this plan.

   b. When cholinesterase inhibiting substances (CIS) (e.g., carbamate or organophosphate pesticides) are used, the RBC cholinesterase level are monitored at least twice a year (before and after the summer spray season) and more frequently if CIS are heavily used or if the individual exhibits symptoms of CIS poisoning. Removal from work is instituted when the RBC cholinesterase level is depressed to 75 percent of the baseline level or less. Return to work is permitted when the level has returned to 80 percent or more of the baseline level. Some of the common symptoms produced by cholinesterase inhibiting substances are listed in Table 3.

Table 3. Common Symptoms Produced by Cholinesterase Inhibiting Substances.

Mild Poisoning	Moderate Poisoning	Severe Poisoning
Anorexia	Nausea	Diarrhea
Headache	Salivation	Pinpoint, non-reactive pupils
Dizziness	Lacrimation	Respiratory difficulty
Weakness	Abdominal cramps	Pulmonary edema
Anxiety	Vomiting	Cyanosis
Tremors of tongue and eyelids	Perspiration	Loss of sphincter control

	Slow pulse	Convulsions
Miosis Impairment of visual acuity	Muscular tremors	Coma Heart block

c. Personnel who handle or otherwise come into contact with wild animals on the installation receive rabies prophylaxis. This includes military police, wildlife biologists, and pest management technicians. Special gloves and equipment designed for handling wild animals will be procured and used by all -personnel involved in such operations.

d. USACHPPM Technical Guide No. 114 [Reference 3(j)] is used as a guide for medical monitoring of pesticide applicators.

e. All Government pesticide applicators are medically monitored by the Occupational Health Section located at Womack AMC or selected Health Clinics.

2. Hazard Communication.

a. Installation pest management personnel are given hazard communication (HAZCOM) training, which includes a review of hazardous materials in his/her workplace. Also see Appendix E, this document for further Hazardous Material Management information. Following initial (HAZCOM) communication classes, additional training is given to new employees or when new hazardous materials are introduced to the workplace. The following personnel have received HAZCCOM training. DD Forms 1556 were filed in each employee's personnel records and will be retained for 30 years.

(1) Tommie W. Campbell, Pest Management Coordinator, DPW, Environmental Complaince Branch.

b. Material Safety Data Sheets for all pesticides and other toxic substances used in the pest management program can be found in the Entomology Office, Building 3-1335. Additionally, MSDS are kept in each facility where pesticides are stored or handled. This includes the golf course prefab storage facility (adjacent to Building K-1816).

3. Personal Protective Equipment. Approved masks, respirators, chemical resistant gloves and boots, and protective clothing (as specified by applicable laws, regulations and/or the pesticide label) are provided to pesticide applicators as applicable (see Appendix F, Respirator Training and Issue Records and Maintenance Procedures). These items are used as required during the mixing and application of pesticides. The proper use and maintenance of personal protective equipment can be found in Appendices E (Pest Management Operations) and F (Respirator Training and Issue Records and Maintenance Procedures).

4. Fire Protection.

a. Building 3-1335 contains the majority of the pesticides stored by Public Works. The building, approximately 3150 square feet in size, is located within a curbed cement area. Pesticides are not stored outside under any circumstances. The probability of a fire at all sites is low. The golf course stores pesticides in Building K-1816. The pest management coordinator has provided floor plans for these two pesticide storage facilities to the fire department. In addition, pesticide inventories are sent to the fire department every six months. The Fort Bragg Fire Chief will determine, based an his prefire plan, which fire control efforts to employ depending on the size and type of fire at the time a fire call is

reported. Maps and other information relating to fire control can be found on file in the Entomology and fire department offices.

b. Minor amounts of pesticides are also provided for sale or distribution at the Commissary, Post Exchange.

5. Pest Control Vehicles. All pesticide work is performed by contract. Care is taken to secure pesticides to prevent damage to the containers and spillage of the chemicals. At no time are pesticides left unsecured in the vehicles when unattended. Pesticides or contaminated equipment are not placed in the cabs of the vehicles. A portable eye lavage and spill kit is carried in each pest control vehicle when in use. All vehicles are labeled "Contaminated With Pesticides" as required by federal law.

G. ENVIRONMENTAL CONSIDERATIONS.

1. Protection of the Public. Precautions are taken during pesticide application to protect the public, on and off the installation. Pesticides are not applied outdoors when the wind speed exceeds five miles per hour. Whenever pesticides are applied outdoors, care is taken to make sure that any spray drift is kept away from individuals, including the applicator. Pesticide application indoors is accomplished by individuals wearing the proper personal protective clothing and equipment. At no time are personnel permitted in a treatment area during pesticide application unless they have met the medical monitoring standards and are appropriately protected.

2. Sensitive Areas.

a. The protection of the environment (Appendix K) and sensitive areas listed on pesticide labels are considered before pest control operations are conducted. No pesticides are applied directly to wetlands or water areas (lakes, rivers, etc.) unless use in such sites is specifically approved on the label and the proposed application are approved by the DES Environmental Division. This last statement particularly applies to the lakes and wetlands on Fort Bragg.

b. Special care is given when pesticides are applied in the child development center, in patient areas of the health clinic, or in family quarters where newborn infants are present. Pesticide label instructions and guidance provided in the AFPMB TG, see: http://www.afpmb.org/pubs/tims/tims.htm. Pest Management Operations in Medical Treatment Facilities are followed.

3. Endangered/Protected Species

a. There are five federally endangered species that occur on Fort Bragg (See Table 4 below). In addition, there are numerous federal canditate and state protected flora and fauna that occur on Fort Bragg. (See Appendix T), for an Endangered Species management Plan exact/list of these species. The Pest Management Coordinator periodically evaluates ongoing pest control operations and evaluates all new pest control operations to ensure compliance with the Endangered Species Act. No pest management operations are conducted that are likely to have a negative impact on endangered or protected species or their habitats without prior approval from the AEC Pest Management Consultant.

(b) In the event that mosquito control is required on the lakes which are located on Fort Bragg, consideration is given to migratory birds before any action/treatment is taken. Although not endangered, migratory birds on the lakes are protected. These birds must be considered in the event of a mosquito control program.

d. **Environmental Documentation.** An environmental assessment plan which specifically addresses the pesticide use program on the installation. This plan is referenced in the assessment as documentation of pesticide use and pest management operations. A copy will be on file in the Environmental Branch, Building 3-1137.

Table 4. Endangered and Threatened Wildlife and Plant Species Known to Occur On Fort Bragg.			
Scientific Name	**Common Name**	**USDI Endang Threat**	**North Carolina Endang Threat**
Picoides Borealis	Red Cockaded Woodpecker	X	X
Neonympha Mitchelli	St. Francis Satyr	X	X
Schwalbea Americana	American Chaffseed	X	X
Rhus Michauxii	Michaux's Sumac	X	X
Lysimachia Asperulifolia	Rough-leaved Loosestrife	X	X

4. **Pesticide Spills and Remediation.** A pesticide spill cleanup kit is maintained in the pesticide storage area of Building 3-1335. Pesticide spill cleanup, decontamination, disposal, *notification procedures*, and a list of components of the spill kit is provided in Appendices K,L, and S of this plan. A spill cleanup kit is kept on each pest control vehicle. Additional information *on* pesticide spills can be found in AFPMB TIM 15 (Reference N5b) and Appendices E, K, and L, this document. All pesticide spills are reported to the installation hazardous waste manager.

5. **Pollution Control/Abatement Projects.** There are currently no pollution control or abatement projects on Fort Bragg.

6. **Pollution Prevention (P2).** "This pest management program complies with the applicable sections of Executive Order 13148 of April 21, 2000, Greening the Government through Leadership in Environmental Management."

NOTE: EO 13148 revokes EO 12856. See http://ceq.eh.doe.gov/nepa/regs/eos/eo13148.html for details.

7. **Prohibited Activities.**

   a. At no time will a pesticide be used in any manner which is inconsistent with its label.

   b. No pesticide will be used whose registration has been suspended or canceled by the EPA or the States of North Carolina.

   c. Herbicides will not be used to control weeds at the Child Development Center in areas where children play.

H. ADMINISTRATION.

1. **Contracts.**

   a. The Fort Bragg Entomology Office has been downsized and is currently managed by a Inspector/ COR. The streamlined contract system requires a licensed pest control companies to bid for the right to perform the requested pest control services. Each service performed is typed on a written contract delivery order and services rendered are signed for after the completion of work performed. Fort Bragg retains the right to inspect and review all facets of each operation All current services are provided under a fixed cost contract. A copy of this contract and the supporting quality assurance surveillance plan are also on file in the office of the Pest Management Coordinator.

b. "Pesticide misuse-which includes use inconsistent with the label, is a violation of Federal Law. In accordance with DoD policy (seeDoD 4150.7-P), Fort Bragg personnel will record and report any instances of pesticide misuse and falsification of records by contractors to the State of North Carolina. Furthuremore, Fort Bragg personnel will cooperate with North Carolina regulators and the EPA in any subsequent investation or actions."NOTE: This is a sentive issue with many States. They are concerned that a contractor would try to hide behind sovereign immunity (which was never waived for FIFRA).

c. "In accordance with DoD policy, all contract personell who apply pesticide on Fort Bragg will be certified as "commerical applicators" by the State of North Carolina Department of Agriculture and Consumer Services. Depending on the type of application, certification will be in one or more of the 14 different categories (11 agricultural and 3 structural). The contractor will provide photocopies of employee certification document to the PMC before perfoming services on the installation."

2. **Service Orders.**

   a. Service orders are called in to the service desk and printed in the office. Service orders are given to contractor on a daily basis.

   b. All work performed for Family Housing is done under the Maintenance Contract

   c. Work requests for buildings other than those mentioned above are performed under a separate service order which includes all buildings on the installation.

3. **Interservice Support Agreements.** Pest management services, at times, are provided to Pope Air Force Base.

4. **Agricultural Outleases.** Presently Fort Bragg has two agricultural outleases.

5. **Resources (Current and Proposed).** For a more detailed discussion of resources than that found below, refer to Appendix D (Annual Workload).

   a. **Staffing.** The following personnel are involved with pest management on Fort Bragg.

      (1) Installation Pest Management Coordinator.

      (2) Natural resources forester technicians.

      (3) QAE Pest Management

      (4) Golf course superintendent..

      (5) Preventive medicine specialists.

      (6) Veterinary food inspectors.

   b. **Materials and Equipment.** All materials and equipment are furnished by the contractor. Only pesticides and pesticide application equipment required by the program are maintained by the contractor as well. Pesticides are ordered as required. Pesticides which are required for use during a specific time of year (e.g., herbicides applied in the spring when weeds are emerging) are ordered in a timely manner to ensure effective application. The inventory of pesticides, provided as Appendix N lists the pesticides on hand at Fort Bragg. Appendix N also includes an optional Pesticide Stock Record and DD Forms 1532/1532-1, which are quite useful for hazardous waste minimization and monitoring purposes. An inventory of pesticide application equipment used at Fort Bragg is provided as Appendix J. These

inventories are updated as changes occur. As a minimum, an updated pesticide inventory is included in the plan's Annual Update.

c. DPW Pest Control Facility (Mixing and Storage Sites).

(1) We no longer have a mixing room for pesticides, since we are contracted. With the implemention of IPM, mixing room are almost extinct.

(2) We do maintain a mixing area outside for termites and herbicides. A pesticide spill kit is maintained in the pesticide storage area.

(3) Pesticides are stored in building 3-1335, which was constructed in 1985. It has a gross square footage of 3,500. This facility conforms to Army and Federal standards. A floor plan for this facility is on file in the pest control facility.

d. Golf Course (Mixing and Storage Sites).

(1) The Golf Course Protection Program is implemented year round. Chemicals are mixed at the golf course maintenance facility. Only quantities and frequencies recommended by the manufacturer are used by the Installation Golf Course Manager.

(2) All pesticides are stored in building a PREFAB building adjacent to K-1816. The PREFAB Building was purchased specifically for pesticide storage in 1994. Its foundation sits on a concrete slab. The walls and roof are made of steel. It has a gross square footage of 200 feet. The building is used only for pesticide storage.

(3) Plumbed eye lavage and deluge showers are provided within the enclosure. A floor plan for this facility is on file in the pest control facility.

(4) All pesticides are mixed Outside the facility (enclosure described above d(2)]. Large sprayers are also filled on the inclined concrete mixing pad outside the facility. A request for complete curbing (for better spill containment purposes) is being prepared for submission. Golf course personnel had requested that pesticide storage and mixing be permitted outside their maintenance building on the concrete pad. This was approved, since this facility is over six miles from the nearest curbed mixing pad and it is not considered safe or prudent to drive pesticide-filled slow moving equipment over Fort Bragg's extremely busy roads on a daily basis. Fort Bragg will continue to plan to bring the maintenance pest control facility up to standard in the near future.

e. Formulation, Calculations, and Mixing.

(1) Formulation: A formulation contains a pesticide in a form that can be (a) dissolved or suspended in a carrier and distributed in solution or Suspended by sprayers, (b) distributed dry by dusters and/or spreaders, and (c) easily vaporized for fumigation. Frequently formulations contain inactive filler that serves as a diluent only.

(2) Calculations: Mixing spray materials correctly involves calculations of the proper amounts of pesticide and diluent; mixing the correct formulation cannot be over emphasized.

(3) Mixing: Mixing too strong will contaminate the area. Mixing too weak or not of the proper strength will not accomplish the job. Rates of application are expressed in terms of acid equivalent, phenol equivalent, and active ingredient. They are recommended in pounds of active ingredients or acid equivalent per 100 lbs or gallons per area.

6. Reports and Records.

a. Adequate records of all pest management operations performed by engineering personnel, the golf course, contractors, agricultural lessee (when present), and self-help are maintained on the installation.

b. Alternate forms for daily pesticide application and surveillance recording are maintained by the installation COR controller. These forms provide a permanent historical record of pest management operations for each building, structure or outdoor site on the installation. The DD Form 1532-1 is maintained by the superintendent for pest management activities performed on the golf course.

c. The monthly Pest Management Report (Alternate-DD Form 1532) is used to report all pest management operations on the installation. These reports are prepared and maintained by the Fort Bragg Pest Management Coordinator

d. The Environmental Management Division maintains a current inventory of stored pesticides. Copies of the inventory are sent to the Fire Department every six months.

e. Copies of termite inspection reports (DD Forms 1066) are forwarded to the pest management coordinator within 15 days following inspection work.

7. Training.

a. Government (Fort Bragg) employees **who apply** or oversee the application of pesticides are DOD-certified. Training and certification is conducted by Fort Sam Houston, Texas. Certified personnel are recertified every three years. Installation pest management personnel are certified in the appropriate EPA categories in order to perform pest management operations directly or to supervise other employees conducting pest control within these categories (see Table 5). Training certificates are found in Appendix 0.

Table 5. Certification Requirements for Fort Bragg Pest Management Personnel.

Name	Activity/Function	EPA Categories*
Tommie W. Campbell	Environmental Proctection Specialist	3, 5, 6, 7, 8
Alan Abellnnosa	Supervisor, Ground Section	2, 3, 5, 6, 7, 8
Eugene Burgess	Inspector, Pest Management Quality Assurance Evaluator	2, 3, 5, 6, 7, 8

*Ornamental and turf pest control (EPA category 3).
Aquatic pest control (EPA category 5).
Right-of-way pest control (EPA category 6).
Industrial, institutional, structural and health-related pest control (EPA category 7).
Public health pest control (EPA category 8).

b. Personnel who are certified in pesticide application attend local pest management classes, workshops, seminars, etc., in order to keep abreast of pest problems and pest management techniques, which are unique to the area surrounding the installation. This is particularly true when dealing with vegetation control since many of the herbicide labels indicate that choices in strength and application technique should be based on local conditions. By attending local seminars, pest management personnel learn to solve problems on the installation by talking to people in the same geographic area, which have solved similar problems in the past. The time and labor expended in this type of training is easily recouped through improved efficiency in

pest control operations on the installation. Local pest management training consists of at least eight hours per year; this is in addition to any offsite recertification training, such as the DOD course. Other personnel who deal directly with pest control operations, but who may not need to be certified, are also encouraged to attend local seminars to better understand the pest management needs of the installation.

8. **Quality Assurance/Quality Control.**
   a. The QAE for the pesticide/herbicide pest management contracts is DOD-certified in the EPA categories for which pest control work is performed on the installation.
   b. A written quality assurance surveillance plan is used to evaluate the work being performed by the contract pest management technicians. A written QA checklist is currently not required or used.
9. **Design/Review of New Construction.** Construction projects on Fort Bragg are reviewed with pest prevention and control in mind. Engineering and medical personnel review the design of new buildings or other structures and conduct a pest evaluation in the constructed facility prior to completion of the project to ensure that insect and rodent entry points and potential harborage have been eliminated.
10. **5-Year Plan.** Many administrative elements of the program such as recurring and projected requirements are addressed in the 5-year plan. This document serves as a tool to identify these requirements and the timeframes for implementation. The 5-year plan also helps installation personnel to anticipate program changes and requirements. This Plan is under revision and will be placed in Appendix U, upon completion.

I. COORDINATION - DOD, Other Federal, State and Local.

1. The Army Pest Management Program is responsible for protecting personnel and material from illness and damage by pests, wherever in the world they may be. The program includes both medical and operational responsibilities. While these responsibilities do overlap, Medical Command (HSC) focuses on preventing and minimizing medical consequences of pests and pest management operations while the Assistant Chief of Staff for Installation Management and the Army Environmental Center concentrate on safe, effective implementation of day-to-day pest management operations and environmental considerations of pest management operations. A list of organizations involved with or who have impact on the Army Pest Management Program is found in Appendix 0. Their addresses and a description of their responsibilities are also included.
2. The AEC Pest Management Consultant technically validate the pest management plan, and gives special attention to any pesticide application that: uses restricted use pesticides; uses any pesticide that may significantly contaminate surface or ground water; includes 259 or more hectares (640 acres) in one pesticide application; may adversely affect endangered or other protected species or habitats; or involves aerial application of pesticides.
3. Liaison is maintained between the Pest Management Coordinator and Preventive Medicine personnel at the Health Clinic to determine the prevalence of disease vectors and other public health pests in the area surrounding the installation.
4. The Pest Management Technicians and/or Military Police are responsible for capturing and removing stray dogs and cats on the installation. The pest management technicians coordinate service requests for stray animal control in the main post area with the MPs.
5. Control of mosquito larvae on breeding sites (e.g., during an encephalitis outbreak) are coordinated with the following agencies:

a. State of North Carolina - Proposed actions are coordinated with health officials and environmental personnel.

b. County Health and Environmental Personnel - proposed actions are coordinated with personnel in counties affected.

c. Bureau of Land Management and U.S. Fish and Wildlife Service - these services are consulted whenever any proposed action may be detrimental to the endangered species of birds.

d. Bureau of Reclamation - responsible for managing the waterways in and around Fort Bragg.

6. Predator control, if required, must be coordinated with the North Carolina Game and Fish Department.

7. Installation personnel coordinate with the Corps of Engineers to assure that pesticide application, such as termite pretreatment for new construction, is properly performed and documented.

8. A list of points of contact, with telephone numbers, is also found in Appendix P.

J. **SALE AND DISTRIBUTION OF PESTICIDES**. Pesticide items are made available to family housing residents by Dodson Brothers who is the subcontractor for Picerne Military Housing, point of contact is Ramsey Hawley, (910) 764-4500. Currently the only item that's available for self-help is Max Force roach and ant bait. This product is provided by Dobson Brothers and administered by each neighborhood center director with training on how to use the product.

a. ANNUAL IJO's, SOO's: General pest control will be performed under annual service orders.

1. **Other Activities.**

a. AAFES. All pesticides sold in the Post Exchange, Building 8-5050, and Z-3252 are registered by the EPA for general Use; restricted use products are not sold. Pesticide products are grouped into several separate categories: products applied to pets for ectoparasite control, repellents, household, and lawn and garden products. A spill cleanup kit is on hand in the immediate vicinity of the home and garden pesticide storage area. Store personnel are familiar with the use of the cleanup kit and with installation spill contingency procedures. Additional guidelines on pesticides in exchanges can be found in paragraph 4-7.k. DA PAM 40-11.

b. Commissary. "All Pesticides sold in the Commissary, Building 8-5476, Z-3252, are registered by the EPA and the State of North Carolina for general use; restricted use products are not sold. Pesticide products are ready-to-use. A spill cleanup kit is on hand. Store personnel are familiar with the use of the cleanup kit and with installation spill contingency procedures. Additional guidelines on pesticides in commissaries can be found in paragraph 4-7.k. DA PAM 40-11.

c. Veterinary Clinic "All pesticides sold at the Clinic are registered by the EPA and the State of North Carolina for application to animals. No restricted use products are sold." containing pesticides are sold to Veterinary Clinic customers for their own use. These products are registered by EPA and are labeled for application to animals. Animals are not treated (e.g., dipped) for fleas, ticks or other ectoparasites in the clinic.

K. PEST MANAGEMENT SERVICES PROVIDED TO OTHER ACTIVITIES.

1. Tenant Activities. Pest control services are provided to all tenant activities on Fort Bragg. This includes: Health Clinic, all Reserve Centers, Golf Course, Commissary, Post Exchange, and DRMO.

2. Agencies Located off the Installation. Airborne and Special Operation Mesuem is located downtown Fayetteville, NC.

L. REGULATED PESTS.

1. Quarantine Pests. The USDA, when required inspects incoming household goods and other cargo for the presence of Gypsy Moth. There are no other requirements for plant or animal quarantine on Fort Bragg.
2. Retrograde Cargo. Retrograde cargo which is received on the installation is inspected inside the common carrier (truck, aircraft, etc.) used for transport. If any signs of live pests or plant/soil material are present, then the shipping container is sealed and impounded to prevent discharge of the contents. The local USDA inspector is notified, and further disposition of the material is made following a joint inspection.
3. Noxious Weeds. The installation complies with all Federal and State noxious weed laws. When noxious weeds are encountered on the installation, care is taken to ensure that nearby nontarget plants are not adversely affected. Noxious weeds regularly encountered include Poison Ivy, Oak, and Sumac.

M. PEST MANAGEMENT REFERENCES. (Available on line)

1. Federal and State Laws.
   a. The Federal Insecticide, Fungicide and Rodenticide Act (thru PL 100-460, 100-464 to 100-526, and 100-532).
   b. Title 29, Code of Federal Regulations, 1993 revision, Section 1910, Occupational Safety and Health Standards.
   c. Title 40, Code of Federal Regulations, 1993 revision, Section 165.10, Recommended Procedures and Criteria for Storage of Pesticides and Pesticide Containers.
2. **Regulations.**
   a. DoD Dir 4150.7, DoD Pest Management Program, 22 April 1996.
   b. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.
   c. AR 40-5, Preventive Medicine, 22 July 2005.
   d. AR 200-1, Environmental Protection and Enhancement, 23 April 1990.
   e. AR 200-2, Environmental Effects of Army Actions, 23 December 1988.
   f. AR 100-3, Natural Resources Land, Forest, and Wildlife Management.
   g. AR 200-5, Pest Management, 29 October 1999.
   h. DA PAM 40-11 Preventive Medicine, 22 July 2005.
3. **Technical Manuals.**
   a. TM 5-629, Weed Control and Plant Growth Regulation, 24 May 1989.
   b. TM 5-632, Military Entomology Operational Handbook, December 1971.
4. **U.S. Army Environmental Hygiene Agency Technical Guides.**
   a. No. 114, Guide for the Medical Surveillance of Pest Controllers, March 1976.
   b. No. 138, Guide to Commensal Rodent Control, December 1991.
5. **Armed Forces Pest Management Board Technical Information Memorandums.**
   a. No. 14, Protective Equipment of Pest Control Personnel, March 1992.

b. No. 15, Pesticide Spill Prevention Management, June 1992.

c. No. 16, Pesticide Fires: Prevention, Control, and Cleanup, June 1981.

d. No. 20, Pest Management Operations in Medical Treatment Facilities, October 1989.

e. No. 21, Pesticide Disposal Guide for Pest Control Shops, October 1986.

f. No. 29, Integrated Pest Management in and Around Buildings, 1994.

6. Other References, Manuals. Books and Guides.

a. MIL-STD-903C, Sanitary Standards for Commissaries, 20 November 1966.

b. MIL-STD-904A, Guidelines for Detection, Evaluation and Prevention of Pest Infestation of Subsistence, 13 January 1984.

c. MIL-STD-909, Sanitation Standards for Food Storage Facilities, 31 August 1989.

d. MIL-HDBK-1028/8A, 1 November 1991, Design of Pest Management Facilities.

e. TB Med 561, Occupational and Environmental Health, Pest Surveillance, June 1992.

f. Mallis Handbook of Pest Control, 7th Edition, PCT Books, 4012 Bridge Ave, Cleveland, OH 44113, 1100

g. Soil Survey of Cumberland and Hoke County, North Carolina, USDA Soil Conservation Service, 1984.

7. Periodicals.

a. Pest Control (Magazine Published Monthly), P.O. Box 6215, Duluth, MN 55806-9915.

b. Pest Control Technology (Magazine Published Monthly), PCT, 4012 Bridge Ave, Cleveland, OH 44113.

c. Pest Management Bulletin, Periodic Publication of U.S. Army Environmental Hygiene Agency, Entomological Sciences Division, Aberdeen Proving Ground, MD 21010-5422. (Phone DSN 584-3613)

8. Annual updates of this plan will be sent to the U.S. Army Environmental Center (AEC) Pest Management Consultant

APPENDIX A
INTEGRATED PEST MANAGEMENT OUTLINES

PAGE

INTEGRATED PEST MANAGEMENT OUTLINE NO. 1

PEST: German Cockroaches.

SITE: Family housing.

1. Purpose: To control nymphal and adult cockroaches in family housing.
2. Surveillance.
   a. Conducted by: Occupants. Pest management technicians between occupancy 'and when services are requested following self-help failure. Preventive medicine upon special request.
   b. Methods: Visual observation and sticky traps.
   c. Frequency: As necessary.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Use sticky traps in kitchens and bathrooms when a minor infestation of cockroaches occurs. Eliminate cockroach harborage by caulking (or filling with other materials) minor cracks, crevices, holes in walls and floors, or other areas where the structure has provided small openings which could be used by cockroaches.
         (b) Conducted by: Occupants - sticky traps and caulking materials can be obtained from Self-Help. Preventive Maintenance may also eliminate cockroach harborage when work is done between occupancy or during renovation.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by: Contract personel
      (3) Type: Cultural.
         (a) Method and Location: Clean up spilled food and place stored food items in closed containers. Keep papers, bags, boxes and other items off the floors in the kitchen and bathroom to eliminate harborage areas for the cockroaches. Be sure not to overlook items such as recycle materials, pet food, etc.
         (b) Conducted by: Occupants.
   b. Chemical.
      (1) Basis for Treatment: Presence of cockroaches in the quarters.
      (2) Method and Location: Use self-help items where cockroaches have been seen. Apply bait stations in locations where cockroaches have been seen (e.g., kitchen and bathroom cabinets, under appliances, under sinks, etc.). Place the bait stations along the junction between walls and floors for maximum effectiveness.
      (3) Conducted by: Occupants.
      (4) Pesticide – An approved EPA registered chemical

(5) Control Standard: Continue bait station use for 30 to 60 days. If cockroaches are still found, then call the pest management technician for assistance. Bait stations should be removed when empty or after 60 days, whichever is shorter, to prevent the empty containers from providing cockroach harborage.

c. Chemical.

(1) Basis for Treatment: Cockroaches still present after self-help measures have been used and failed to control the infestation.

(2) Method and Location: Apply residual pesticides to harborage areas in kitchens, bathrooms and other areas where cockroaches are found.

(3) Conducted by: Pest management technicians.

(4) Pesticide. (IPM)

(5) Control Standard: No call backs indicate successful treatment. Spot treat quarters where follow-up control is indicated.

4. Precautions for Sensitive Areas: Cholinesterase inhibiting pesticides are not applied in areas that infants may occupy.

5. Prohibited Practices: None.

6. Environmental Concerns: None.

7. Remarks: None.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 2

PEST: German Cockroaches.

SITE: Food service facilities.

1. Purpose: To control nymphal and adult cockroaches in food service facilities.
2. Surveillance.
   a. Conducted by: Food service personnel, Preventive Medicine, and Pest Management Technicians.
   b. Methods: Visual observations by workers. Sticky traps by other inspectors. Preventive medicine conducts inspections at night for cockroaches.
   c. Frequency: Daily by food service personnel. During sanitation inspections or conducted as a special survey for cockroaches by Preventive Medicine. Monthly by pest management technicians.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Eliminate cockroach harborage by caulking (or filling with other materials) minor cracks, crevices, holes in walls and floors, or other areas where the structure has provided small openings which could be used by cockroaches. Caulking materials can be obtained from Self-Help.
         (b) Conducted by: Pest management technicians and augmented by food service and maintenance personnel.
      (2) Type: Biological.
         (a) Method and Location: Bio-Path chambers (see Appendix P). Place the devices along the junction between walls and floors and behind equipment voids for maximum effectiveness.
         (b) Conducted by: Pest management technicians.
      (3) Type: Cultural.
         (a) Method and Location: Use good sanitation to reduce food and water for cockroaches. Clean up spilled food from work surfaces, walls and floors. Wash dirty dishes and cooking containers following use - do not leave exposed food in the facility overnight. Remove bags, boxes and other potential harborage from kitchens, storerooms, etc. Keep food in sealed containers when not in use. Standing water should be eliminated and leaking pipes should be fixed.
         (b) Conducted by: Food service personnel.
   b. Chemical.
      (1) Basis for Treatment: Cockroaches found during surveillance or a trap index of one or greater.
      (2) Method and Location: Crack and crevice residual application.
      (3) Conducted by: Contracted pest management technicians.

(4) Pesticide. Use of IPM, and chemical control will be used if all else fail.

(5) Control Standard: No live cockroaches found 30 days following treatment. When sanitation and harborage present problems in a facility, a reduction in the number of cockroaches in sticky traps may indicate the effectiveness or limitation of chemical control efforts.

c. Chemical.

(1) Basis for Treatment: Presence of cockroaches.

(2) Method and Location: Place bait stations in locations where cockroaches have been seen (e.g., cabinets, under appliances, under sinks, etc.). Place the bait stations along the junction between walls and floors and in equipment voids for maximum effectiveness.

(3) Conducted by: Contract pest management technicians.

(4) Pesticide – An approved EPA registered chemical.

(5) Control Standard: Leave bait stations in place until bait is gone. Remove empty bait stations to preclude cockroaches using them for harborage sites.

4. Precautions for Sensitive Areas: Do not apply to areas where aquariums are present.

5. Prohibited Practices: Do not apply pesticides on food items, utencils, or on food preparation surfaces. Do not let unauthorized personnel in the facility during treatment.

6. Environmental Concerns: None.

7. Remarks: Pesticides should be considered the last option in controlling cockroaches. As long as poor sanitation or harborage exist, the effectiveness of chemicals to control cockroaches may be limited.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 3

PEST: German Cockroaches.

SITE: Barracks, offices and other administrative buildings.

1. Purpose: To control nymphal and adult cockroaches in building areas where people store and/or eat food on an occasional basis (e.g., break areas, coffee rooms, vending areas, etc.).
2. Surveillance.
   a. Conducted by: Occupants. Pest management technicians when services are requested following self-help failure. Preventive medicine upon special request.
   b. Methods: Visual observation and sticky traps.
   c. Frequency: As necessary.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Use sticky traps in break areas or in other areas where food is eaten or stored when a minor infestation of cockroaches occurs. Eliminate cockroach harborage by caulking minor cracks, crevices, and holes where cockroaches may hide. This may not be required in these types of facilities; however, should cockroaches get out of hand (repeat professional treatment required), then harborage elimination may be required.
         (b) Conducted by: Occupants - sticky traps and caulking materials.
      (2) Type: Biological.
         (a) Method and Location: Bio-Path chambers (Bee Appendix P). Place the devices along the junction between walls and floors and behind equipment voids for maximum effectiveness.
         (b) Conducted by: Pest management technicians.
      (3) Type: Cultural.
         (a) Method and Location: Place stored food items in closed containers. Keep break areas clean and clean up spilled food immediately. Rinse out food containers (e.g., soda cans, coffee cups, etc.) to reduce cockroach food. Keep papers, bags, boxes and other items off the floors in areas where food is present to eliminate harborage areas for the cockroaches.
         (b) Conducted by: Occupants.
   b. Chemical.
      (1) Basis for Treatment: Presence of cockroaches.
      (2) Method and Location: Use self-help-items where cockroaches have been seen. Apply bait stations in locations where cockroaches have been seen (e.g., cabinets, desks, under sinks, etc.). Place the bait stations along the junction between walls and floors for maximum effectiveness.

(3) Conducted by: Occupants.

(4) Pesticide – An approved EPA registered chemical

(5) Control Standard: Continue bait station use for 30 to 60 days. If cockroaches are still found, then call the pest management technicians for assistance.

c. Chemical.

(1) Basis for Treatment: Cockroaches still present after self-help measures have been used and failed to control the infestation.

(2) Method and Location: Apply residual pesticides to harborage areas in kitchens, bathrooms and other areas where cockroaches are found.

(3) Conducted by: Pest management technicians.

(4) Pesticide: (IPM), before the usage of chemical.

(5) Control Standard: No call backs indicate successful treatment. Do follow up in two weeks.

4. Precautions for Sensitive Areas: Cholinesterase inhibiting pesticides are not applied in areas that infants may occupy.

5. Prohibited Practices: None.

6. Environmental Concerns: None.

7. Remarks: Cockroach elimination usually responds to good sanitation and light chemical treatment.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 4

PEST: American Cockroaches.

SITE: Sewers, steam tunnels, and crawl spaces.

1. Purpose: To prevent cockroach infestations in basements, crawl spaces, and other below-ground or on-ground areas in buildings which are connected to the utility and sewer systems.
2. Surveillance.
   a. Conducted by: Pest management technicians.
   b. Methods: Visual observation in manholes, crawl spaces, and other places where these cockroaches have been a problem.
   c. Frequency: Quarterly.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Eliminate moisture in basements and other below-ground areas in buildings that could support cockroaches - this is most likely to occur in the main post area. Ventilate wet or damp areas under buildings. In buildings which experience frequent invasion of American cockroaches, drains, particularly those in the basements or on ground level, should have grates or screens over the openings with a mesh size less than 1/8-inch. Utility doors should fit tightly, and pipe chases and other entry points should be sealed.
         (b) Conducted by: Contract Pest Control
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: None.
         (b) Conducted by:
   b. Chemical.
      (1) Basis for Treatment: American cockroaches found in sewers.
      (2) Method and Location: IPM
      (3) Conducted by: Contract pest management technicians.
      (4) Pesticide. IPM
      (5) Control Standard: No live cockroaches in treated sewers 30 days following treatment.
   c. Chemical.

(1) Basis for Treatment: American cockroaches found in basements, crawl spaces, utility tunnels, etc.

(2) Method and Location: Use all methods possible (IPM), before applying pesticides. Conducted by: Pest management technicians.

(3) Pesticide. NONE

(4) Control Standard: No call backs indicate successful treatment. Spot treat quarters where follow-up control is indicated.

4. Precautions for Sensitive Areas: None.

5. Prohibited Practices: None.

6. Environmental Concerns: None.

7. Remarks: American cockroaches are not a problem as long as they stay in the sewer system. However, at times the cockroaches invade family housing units or other buildings on main post (e.g., break in the sewer line). Treatment should proceed from the place where cockroaches cause problems in buildings back to other harborage sites in the sewers or other underground places. If this is not done, then treatment in underground cockroach harborage sites may drive additional insects into buildings not previously experiencing problems.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 5

PEST: Filth Flies.

SITE: Food service facilities.

1. Purpose: To control filth flies in facilities where food is prepared or served.
2. Surveillance.
   a. Conducted by: Food service personnel, Preventive Medicine, and Pest management technicians.
   b. Methods: Visual observations. Fly grids may be used by Preventive Medicine when fly infestations are heavy and need to be quantified; however, most fly problems at food service facilities are relatively easy to determine visually.
   c. Frequency: Daily by food service personnel. During sanitation inspections or conducted as a special survey for flies by Preventive Medicine. Monthly by Pest management technicians.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Sticky fly traps may be used in areas which are not directly over prepared food or food preparation surfaces. This method may be effective when only a few flies are found indoors. Fly grids designed to stun and capture flies on a sticky surface may be used in kitchen and eating areas (as opposed to older fly grids which are designed to electrocute flies causing them to explode and fragment).
         (b) Conducted by: Food service personnel.
      (2) Type: Mechanical and Physical.
         (a) Method and Location: Screens should be used to preclude fly entry when doors and windows are to be left open. Automatic self-closing devices should be placed on outer doors to reduce the time open doors permit fly entry. Air curtains may also be used at entry points, but must be installed and maintained correctly to blow flies away from the entrance and not into the entrance and should cover the entire door width.
         (b) Conducted by: Building maintenance personnel. However, keeping doors closed when not in use is the responsibility of food service personnel.
      (3) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (4) Type: Cultural.
         (a) Method and Location: Use good sanitation to reduce food and water which attract flies. Clean up spilled food from work surfaces, walls and floors. Wash dirty dishes and cooking containers following use - do not leave exposed food in the facility overnight. Place garbage in sealable bags. Place the bags in containers with tight fitting lids and keep containers closed when not in use. Do not place dumpsters within 50 feet of the facility.

(b) Conducted by: Food service personnel.

b. Chemical.

(1) Basis for Treatment: Flies found within the facility.

(2) Method and Location: Contact treatment with aerosol insecticide.

(3) Conducted by: Food service personnel.

(4) Pesticide. Use all methods of IPM before applying pesticides.

(5) Control Standard: Use good sanitation. Flies are killed on contact.

4. Precautions for Sensitive Areas: Some fogging may be necessary as a last result.
5. Prohibited Practices: Do not apply pesticides on food items or on food preparation surfaces.
6. Environmental Concerns: None.
7. Remarks: Good sanitation should virtually eliminate fly problems at food service facilities. The pesticide listed above should be the only chemical control used. If flies are coming into the facility from a nearby source (e.g., farm, dump, etc.), then contract personnel would be notified to look into the problem. Refuse containers need to be cleaned weekly in the summer months to preclude fly breeding.

INTEGRATED PEST MANAGEMENT OUTLIVE NO. 6

PEST: Filth Flies.

SITE: Stables.

1. Purpose: To control filth flies at the stables.
2. Surveillance.
   a. Conducted by: Stable and Veterinary personnel.
   b. Methods: Visual observations. Fly grids may be used by Veterinary personnel when fly infestations are heavy and need to be quantified.
   c. Frequency: Daily by stables personnel. During inspections or conducted as a special survey for flies and other problems by Veterinary personnel.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Sticky fly traps may be used inside administrative buildings. This method may be effective when only a few flies are found indoors. Fly grids designed to stun and capture flies on a sticky surface (as opposed to older fly grids which are designed to electrocute flies causing them to explode and fragment) may be used in barns or other areas where flies interfere with ongoing operations.
         (b) Conducted by: Stable personnel.
      (2) Type: Mechanical and Physical.
         (a) Method and Location: Screens should be used to preclude fly entry into administrative buildings.
         (b) Conducted by: Building maintenance personnel. However, keeping doors closed when not in Use is the responsibility of stables personnel.
      (3) Type: Biological.
         (a) Method and Location: Parasitic wasps are periodically released in the horse stall areas. The wasps are used to parasite eggs and larvae of flies. The wasps are purchased from a private company.
         (b) Conducted by: Stable personnel.
      (4) Type: Cultural.
         (a) Method and Location: Use good sanitation to reduce or eliminate the potential for fly breeding in manure. Horse stalls are cleaned out daily by horse owners; Army horse stalls are cleaned out daily by stables personnel. Manure is either hauled away to a disposal Bite or spread over the ground to dry. Manure is spread so that it dries in less than one week, thus not providing a medium for fly breeding.
         (b) Conducted by: Horse owners and stable personnel.
   b. Chemical.

(1) Basis for Treatment: Flies found in administrative buildings.

(2) Method and Location: Contact treatment with aerosol insecticide in administration areas.

(3) Conducted by: Stable personnel.

(4) Pesticide.

(a) Common Name: Pyrethrin.

(b) EPA Registration Number: 499-285.

(5) Control Standard: All flies are killed.

c. Chemical.

(1) Basis for Treatment: Flies found in horse stalls.

(2) Method and Location: Place fly bait in the vicinity of the stalls.

(3) Conducted by: Pest Management Personel.

(4) Pesticide – An approved EPA registered chemical

(5) Control Standard: Fly numbers are reduced.

4. Precautions for Sensitive Areas: Do not apply pesticides in horse areas. Keep fly bait away from pets and horses.

5. Prohibited Practices: None.

6. Environmental Concerns: None.

7. Remarks: Good sanitation should significantly reduce flies at the stables. Good manure management, used in conjunction with the parasitic wasps, should be effective. At no-time will residual pesticides be applied to manure, buildings or grounds at the stables for fly control. Because resistance to pyrethrins is common in flies, this chemical should be used as little as possible. If flies are not killed with pyrethrin, discontinue use.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 7

PEST: Stored Products Insects.

SITE: Food storage warehouses (Commissary and TISA), and food handling buildings (FHB).

1. Purpose: To control insects which damage food and fiber products.
2. Surveillance.
   a. Conducted by: Veterinary Food Inspectors, Preventive Medicine Specialists, and Pest Controllers.
   b. Methods: Visual observations for insects and/or conditions that could favor insect infestations in stored food products. Particular attention should be given to rodent bait stations when they are in use since most baits are subject to insect infestation. Augment visual observations with pheromone traps.
   c. Frequency: Monthly in food service facilities -Preventive Medicine and pest management technicians; daily in the Commissary and its warehouses, and the TISA - Veterinary Inspectors.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Clean Up spilled food materials which may attract and provide a food source for insects at least daily. Vacuuming works better than sweeping in particle-filled cracks and crevices.
         (b) Conducted by: Facility personnel.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Damaged goods should be kept in tight-fitting containers. Infested products are removed immediately upon discovery.
         (b) Conducted by: Facility personnel.
   b. Chemical.
      (1) Basis for Treatment: Insects found in products or in the food storage areas.
      (2) Method and Location: 2-gallon sprayer - apply around pallets, floor/wall junctures, and other areas where insects may be present.
      (3) Conducted by: Pest management technicians.
      (4) Pesticide – An approved EPA registered chemical
      (5) Control Standard: No evidence-of insects for 30 days following treatment.
4. Precautions for Sensitive Areas: Do not apply pesticides to food products or packages/outer wrappings of food.

5. Prohibited Practices: Do not treat when building is occupied.
6. Environmental Concerns: None.
7. Remarks:

INTEGRATED PEST MANAGEMENT OUTLINE NO. 8

PEST: Mosquitoes.

SITE: Cantonment area.

1. Purpose: To control adult mosquitoes on the main post area, including family housing.
2. Surveillance.
   a. Conducted by: Preventive Medicine personnel.
   b. Methods: Larval surveys in standing water on main post; six light traps distributed on main post in areas where people are most concentrated at night (when mosquitoes bite).
   c. Frequency: Larval surveys done weekly; adult light traps operated twice per week.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Screens should be placed on windows on buildings occupied at night to exclude adult mosquitoes. Temporary standing water sites should be graded or filled to eliminate mosquito breeding. Precautions must be taken not to damage wetlands. Eliminate artificial container breeding sites.
         (b) Conducted by: Preventive Medicine.
      (2) Type: Biological. Bacillus thuringiensis (Bti).
         (a) Method and Location: Applied to mosquito larvae found in standing water between the front gate on main post and the canal. If effective, no live mosquito larvae should be present 5 days after treatment.
         (b) Conducted by: Preventive Medicine Personnel.
      (3) Type: Cultural. None
         (a) Method and Location: None.
         (b) Conducted by: Preventive Medicine.
   b. Chemical.
      (1) Basis for Treatment: Tree line treated when adult mosquitoes are first found in light traps exceed 25 female mosquitoes/trap/night.
      (2) Method and Location: Treat with an approved chemical with a power sprayer to tree line where needed. As long as the counts remain at or above this level, then the tree line will be retreated every 30 days.
      (3) Conducted by: Contract pest management technicians.
      (4) Pesticide – An approved EPA registered chemical
      (5) Control Standard: Mosquito numbers are reduced in trap below the 25 mosquito female mosquitos/trap/night.

1.Precautions for Sentive Areas: Do not apply when wind speeds are in excess of 10 miles per hour.

Refer to the local list of sentive individuals before applying pesticides.

2. Prohibited Practices: Do not apply insecticides in areas where honeybees can be harmed.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 9

PEST: Ants.

SITE: Family Housing.

1. Purpose: To eliminate ants from family housing units.
2. Surveillance.
   a. Conducted by: Contract Pest Controllers.
   b. Methods: Visual observations following occupant complaints.
   c. Frequency: As required.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Ant bait stations, available through can be placed along baseboards or runways used by ants.
         (b) Conducted by: Occupant.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Spilled food items, to include pest food, should be cleanup up immediately. Food products which are not being used should be kept in containers with tight fitting lids.
         (b) Conducted by: Occupants.
   b. Chemical.
      (1) Basis for Treatment: Ants seen in the quarters.
      (2) Method and Location: – Pesticide applied to foundations and door sills outside buildings.
      (3) Conducted by: Pest Control Contractor
      (4) Pesticide.
         (a) Common Name: Any pesticide as long as it is applied according to label (IPM).
      (5) Control Standard: No call backs to treated quarters within 30 days following treatment.
4. Precautions for Sensitive Areas: None.
5. Prohibited Practices: None.
6. Environmental Concerns: None.

7. Remarks: Ants are a minor problem - placement of a barrier around external building openings appears to control ants before they can enter. Ant problems occasionally occur in other buildings than those in family housing; however, the same information contained in this outline apply.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 10

PEST: Carpenter Ants.

SITE: Wooden buildings.

1. Purpose: To control carpenter ant in wooden buildings.
2. Surveillance.
   a. Conducted by: Pest Controller
   b. Methods: Visual observation.
   c. Frequency: Done in conjunction with termite inspections or as necessary following complaints.
2. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Damaged wood should be replaced. Carpenter ants usually live in damp wood which is soft. Moisture control under and around buildings should be considered to reduce the possibility of carpenter ant infestations or to prevent them from returning.
         (b) Conducted by: Pest Controllers.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Do not place firewood or other wood against the outside of the building - this can: 1) bring wood infested with carpenter ants into proximity to the building, 2) provide an attractant to carpenter ants, and 3) hold moisture nest to the building. Do not allow lawn sprinklers to constantly hit wooden portions of the building or allow water to puddle nest to building foundations.
         (b) Conducted by: Building occupants.
   b. Chemical.
      (1) Basis for Treatment: Presence of ants in and around wooden buildings.
      (2) Method and Location: Aerosol spray applied to surfaces.
      (3) Conducted by: Pest Controllers.
      (4) Pesticide: Useage may vary, however it must be accordance to label.
      (5) Control Standard: No live ants 30 days following treatment.
4. Precautions for Sensitive Areas: None.
5. Prohibited Practices: None.
6. Environmental Concerns: None.

7. Remarks: None.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 11

PEST: Spiders.

SITE: Buildings and other structures.

1. Purpose: Eliminate poisonous spiders (black widow and brown recluse) and nonpoisonous spiders from buildings or other workplaces.
2. Surveillance.
   a. Conducted by: Building occupants.
   b. Methods: Visual observations - spiders are frequently found in dry, cool, usually undisturbed places inside buildings; in carports, utility sheds and other outdoor storage areas; and under buildings.
   c. Frequency: As required.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Spiders and their webs can be eliminated by using a broom or vacuum cleaner in most cases. Maintenance of screens and weather stripping around doors and windows will keep out small insects which the spiders use for food. Sticky traps can also be placed next to door jambs to intercept incoming spiders (if it is suspected they are coming into the building from outside) - the traps can also be used to determine if further control efforts are needed, depending on the number and species of spiders caught. Sticky traps are available through self-help.
         (b) Conducted by: Building occupants.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Spiders can be discouraged through good housekeeping, both inside and outside. Keep boxes, old equipment, and other items neatly stored on shelves, particularly in garages and basements; clean up and dispose of trash, debris, old equipment, etc.
         (b) Conducted by: Building occupants.
   b. Chemical.
      (1) Basis for Treatment: Spiders present in or around building or structure.
      (2) Method and Location:
      (3) Conducted by: Contract Pest Controllers.
      (4) Pesticide: Any type, used in accordance to label.

(4) Control Standard: Application of pesticide by the Pest Controllers should not be done unless the occupants have first tried self-help and their efforts have failed to control the spiders. No complaints or call backs should be received within 30 days after treatment.

4. Precautions for Sensitive Areas: Do not apply in areas with children less than one year old.
5. Prohibited Practices: None.
6. Environmental Concerns: None.
7. Remarks: Spiders need to eat insects and other arthropods to maintain an infestation. When spiders are simply seeking shelter from the outside, they will die if a food source is not readily available. For this reason, good housekeeping is essential in preventing or suppressing spider infestations.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 12

PEST: Crickets.

SITE: Family Housing.

1. Purpose: To eliminate crickets from family housing units.
2. Surveillance.
   a. Conducted by: Contract Pest Controllers
   b. Methods: Visual observations following occupant complaints.
   c. Frequency: As required.
2. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Sticky traps, available through self-help, can be placed along baseboards in areas where crickets are seen or heard. This methods may work if one or two crickets are the problem. However, if numerous crickets are the problem, then the Pest Controllers should be called.
         (b) Conducted by: Occupant.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Crickets often hide in areas which are cluttered with trash, old boxes, and other debris; cleanup of these types of items may help to reduce the cricket infestation.
         (b) Conducted by: Occupants.
   b. Chemical.
      (1) Basis for Treatment: Crickets seen or heard in the quarters.
      (2) Method and Location: 2-gallon sprayer - foundations outside buildings; baseboards and voids inside buildings where crickets may hide.
      (3) Conducted by: Pest Controllers.
      (4) Pesticide. Any type, label direction.
      (4) Control Standard: No call backs to treated quarters within 30 days following treatment.
4. Precautions for Sensitive Areas: None.
5. Prohibited Practices: None.
6. Environmental Concerns: None.

7. Remarks: None.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 13

PEST: Earwigs, Ground Beetles and Other Crawling Insects.

SITE: Family Housing.

1. Purpose: To control crawling insects in family housing units.
2. Surveillance.
   a. Conducted by: Pest Controllers.
   b. Methods: Visual observations following occupant complaints.
   c. Frequency: As required.
2. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Eliminate openings to housing units which provide entry to these insects. Minor repairs can be made with supplies obtained from self-help.
         (b) Conducted by: Occupant.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: None.
         (b) Conducted by:
   b. Chemical.
      (1) Basis for Treatment: Crawling insects seen in the quarters.
      (2) Method and Location: 2-gallon sprayer - pesticide applied to foundations and other areas where insects tend to enter the building
      (3) Conducted by: Pest Controllers.
      (4) Pesticide: Use any type according to label.

      (4) Control Standard: No call backs to treated quarters within 30 days following treatment.
4. Precautions for Sensitive Areas: None.
5. Prohibited Practices: None.
6. Environmental Concerns: None.
5. Remarks: These insects are minor pests and are easily controlled with light residual sprays.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 14

PEST: Bees and Wasps.

SITE: Occupied buildings.

1. Purpose: To control stinging insects in and around occupied buildings.
2. Surveillance.
   a. Conducted by: Pest Controllers.
   b. Methods: Visual observations following occupant complaints.
   c. Frequency: As required.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Screening windows and doors; removal of wasp nests; and removal of bee swarms by a beekeeper.
         (b) Conducted by: Occupant, with the exception of bee swarm removal.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: None.
         (b) Conducted by:
   b. Chemical.
      (1) Basis for Treatment: Bees and wasps found in or around buildings.
      (2) Method and Location: Hand-held aerosol applied directly to insects and nests.
      (3) Conducted by: Occupants.
      (4) Pesticide.
         (a) Common Name: PT515 Wasp-Freeze.
         (b) EPA Registration Number: 488-153ZB.-
      (5) Control Standard: Bees and wasps are killed following treatment.
   c. Chemical.
      (1) Basis for Treatment: Bees and wasps found in or around buildings - insects must present a health risk or interfere with mission accomplishment.
      (2) Method and Location: 2-gallon sprayer - Applied to nest sites or directly to the insects.
      (3) Conducted by: Pest Controllers.

(4) Pesticide.

(a) Common Name: Carbaryl.

(b) EPA Registration Number: 1016-43.

(5) Control Standard: No call backs to treated buildings within 5 days following treatment.

4. Precautions for Sensitive Areas: Treat with carbaryl only where unwanted bees and wasps are found; this insecticide is extremely toxic to bees and may harm these insects where they are not presenting a problem. Areas where bees are beneficial to man (e.g., bee hives, flower beds, etc.) should be avoided.

5. Prohibited Practices: None.

6. Environmental Concerns: None.

7. Remarks: Beekeepers are called when swarms of bees are found in order to preserve the queen and her workers; chemicals are used only as a last resort for control.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 15

PEST: Subterranean Termites.

SITE: Buildings and other structures.

1. Purpose: To prevent termites from damaging wooden structures on the installation.
2. Surveillance.
   a. Conducted by: Pest Controllers.
   b. Methods: Visual observation for termites and/or conditions that could favor termite infestations
   c. Frequency: Annually - may be done in conjunction with service orders for other pests whenever practical.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Eliminate water sources that could support termite colonies - this is most likely to occur in the main post area where grass watering or broken utility lines provide water next to foundations and under buildings. Ventilate wet or damp areas under buildings. Repair and replace infested wood and structural material.
         (b) Conducted by: Public Works personnel.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: None.
         (b) Conducted by:
   b. Chemical.
      (1) Basis for Treatment: Pretreat soil under new construction. Treat active termite infestations when they are found.
      (2) Method and Location: Soil injection.
      (3) Conducted by: Pest Controllers.
      (4) Pesticide.
         (a) Common Name: Dursban TC.
         (b) EPA Registration Number: 464-562.
      (5) Control Standard: No subsequent termite infestations or damage from treated structures for five years after application.
4. Precautions for Sensitive Areas: Avoid getting pesticide in areas where water can become contaminated, and in air ducts of buildings. Do not apply when people are in buildings.

5. Prohibited Practices: None.
6. Environmental Concerns: None.
7. Remarks:

INTEGRATED PEST MANAGEMENT OUTLINE NO. 16

PEST: Ticks.

SITE: Outdoor areas.

1. Purpose: To prevent ticks from biting people and pets.
2. Surveillance.
   a. Conducted by: Preventive Medicine personnel.
   b. Methods: Tick drags.
   c. Frequency: Monthly in high-use areas such as training and bivouac sites, and picnic and other recreational sites. As required for other areas on post.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Proper wearing of clothing outdoors can prevent ticks from readily gaining access to skin. Long pants should be worn and tucked into boot tops or socks.
         (b) Conducted by: Site users, particularly soldiers in the field.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: When a Bite has a high population of ticks present, an alternate site should be selected for activities whenever possible.
         (b) Conducted by: Site users.
   b. Chemical.
      (1) Basis for Treatment: Ticks expected to be in the area.
      (2) Method and Location: Repellent applied to skin.
      (3) Conducted by: Individuals to be protected.
      (4) Pesticide.
         (a) Common Name: Conquer.
         (b) EPA Registration Number: 58007-1.
      (5) Control Standard: Ticks do not attached to skin for feeding.
   c. Chemical.
      (1) Basis for Treatment: Repellent applied to clothing.
      (2) Method and Location: Aerosol spray applied to clothing.
      (3) Conducted by: Individuals to be protected.

(4) Pesticide.

(a) Common Name: Permethrin.

(b) EPA Registration Number: 50404-5.

(5) Control Standard: Ticks do not attached to skin for feeding.

d. Chemical.

(1) Basis for Treatment: Ticks infesting an outdoor site interfere with activities or the mission.

(2) Method and Location: Power sprayer - pesticide applied to surface of the ground and to low-growing vegetation where ticks may be present.

(3) Conducted by: Pest Controllers

(4) Pesticide.

(a) Common Name: Dursban 4E

(b) EPA Registration Number: 464-360.

(5) Control Standard: No live ticks found on tick drags 30 days following treatment.

4. Precautions for Sensitive Areas: None.

5. Prohibited Practices: None.

6. Environmental Concerns: Use of Dursban for area control of ticks should be the last alternative selected for control since the pesticide kills other arthropods as well as ticks. Although the pesticide is labeled for outdoor sites, alternative locations should be selected and/or repellents used in lieu of chemical application to the ground.

7. Remarks: None.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 17

PEST: Silverfish.

SITE: All buildings.

1. Purpose: To control silverfish in buildings where they are a nuisance or damage products (paper goods).
2. Surveillance.
   a. Conducted by: Pest Controllers.
   b. Methods: Visual observations in: 1) warehouses where paper products are stored (done in conjunction with other pest inspections), and 2) other buildings following occupant complaints.
   c. Frequency: Monthly in warehouses; as required in other buildings.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: None.
         (b) Conducted by:
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Good sanitation - elimination of old boxes, paper and other trash from warehouses and other buildings.
         (b) Conducted by: Building occupants.
   b. Chemical.
      (1) Basis for Treatment: Silverfish observed in the building.
      (2) Method and Location: - Pesticide applied to areas where insects are observed.
      (3) Conducted by: Pest Controllers.
      (4) Pesticide.
         (a) IPM technique applied where applicable.
      (5) Control Standard: No call backs to treated buildings within 30 days following treatment.
4. Precautions for Sensitive Areas: None.
5. Prohibited Practices: None.
6. Environmental Concerns: None.
7. Remarks: These insects are minor pests on the installation

INTEGRATED PEST MANAGEMENT OUTLINE NO. 18

PEST: Lice.

SITE: Building areas occupied by personnel with louse infestations.

1. Purpose: To control lice on clothing, bedding or other surfaces.
2. Surveillance.
   a. Conducted by: Infested individuals.
   b. Methods: Visual observation.
   c. Frequency: As necessary.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: None.
         (b) Conducted by:
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Bedding and clothing can be washed in hot water with detergent.
         (b) Conducted by: Infested personnel.
   b. Chemical.
      (1) Basis for Treatment: Presence of lice in bedding, mattresses, furniture or other surfaces.
      (2) Method and Location: Aerosol spray applied to surfaces.
      (3) Conducted by: Pest Controllers.
      (4) Pesticide.
         (a) Common Name: Pyrethrin.
         (b) EPA Registration Number: 4816-635.
      (5) Control Standard: No live lice 24 hours after treatment.
4. Precautions for Sensitive Areas: None.
5. Prohibited Practices: None.
6. Environmental Concerns: None.
7. Remarks: Personnel with louse infestations should first be directed to the local medical treatment facility - treatment of the individual is a medical problem. Head, pubic, or body lice rarely leave the body or clothing of the infested individual. Laundering clothing and bedding should be done before

any pesticide application is considered. On rare occasions, a light application of pyrethrin (contact insecticide) may be needed if live lice are still encountered on clothing.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 19

PEST: Fleas.

SITE: Family housing and other buildings.

1. Purpose: To control fleas in family quarters and in other buildings when fleas are a problem.
2. Surveillance.
   a. Conducted by: Building occupants.
   b. Methods: Visual observation.
   c. Frequency: As required.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Vacuuming carpets and upholstered furniture will help to control fleas - be sure to empty the cleaner bag immediately after vacuuming since the fleas which have been removed are usually not killed. Pet bedding can also be vacuumed and periodically washed in hot water and detergent.
         (b) Conducted by: Building occupants.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Dogs and cats should be treated with an approved insecticide to control fleas - the Veterinary Clinic may have suitable products for sale or may give advice on various products which can be safely used on pets.
         (b) Conducted by: Pet owners.
   b. Chemical.
      (1) Basis for Treatment: Flea infestations in the quarters or in other buildings.
      (2) Method and Location: 2-gallon sprayer - treat interior of buildings in accordance with label directions.
      (3) Conducted by: Pest Controllers.
      (4) Pesticide.
         (a) Common Name: Conquer.
         (b) EPA Registration Number: 1021-1641-57076.
      (5) Control Standard: No live fleas 5 days following treatment.
   c. Chemical.

(1) Basis for Treatment: Flea infestations in the quarters or in other buildings.

(2) Method and Location: 2-gallon sprayer - treat interior of buildings in accordance with label directions.

(3) Conducted by: Pest Controllers.

(4) Pesticide.

(a) Common Name: Torus.

(b) EPA Registration Number:

(5) Control Standard: No live fleas 90 days following treatment. This product is a growth regulator and, as such, will prevent flea larvae from developing into pupae. This product will not, however, kill fleas which were in the pupal stage at the time of application. For this reason, Precor is often used in conjunction with the Dursban product mentioned above.

4. Precautions for Sensitive Areas: None.

5. Prohibited Practices: None.

6. Environmental Concerns: None.

7. Remarks: Fleas may become a serious problem if quarters which contain pets are vacated for extended periods of time (e.g., vacation, between occupancy, etc). During this time, flea larvae develop into pupae and wait for the presence of pets or people to pupate. When this happens, many newly emerged, hungry adult fleas are suddenly present. Fleas can also be a problem in buildings which have feral cats living under them. Adult fleas may enter the first floors of the buildings through small cracks or other openings and subsequently bite people working inside. To remedy this problem, capture and remove the cats.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 20

PEST: Bagworms, White Grubs, Fall Webworms, and Tent Caterpillars.

SITE: Pecan, Cherry, Elm, and other trees.

1. Purpose: To control tent caterpillars on elm and other trees. These insects can defoliate the trees and, if the infestations are severe, kill the trees.
2. Surveillance.
   a. Conducted by: Pest management technician.
   b. Methods: Visual observation.
   c. Frequency: Weekly from 1 March through 31 May.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Remove tents from trees. This should be done in the evening, since the insects leave the tents during the day to feed. This method works when the tents are easy to reach; however, for tents higher in trees or when the tents are extensive, then alternate control methods may need to be employed.
         (b) Conducted by:
      (2) Type: Biological.
         (a) Method and Location: Apply Bacillus thuringiensis (Bt) in accordance with label directions.
         (b) Conducted by: Pest management technician.
      (3) Type: Cultural.
         (a) Method and Location: None.
         (b) Conducted by:
   b. Chemical.
      (1) Basis for Treatment: Presence of caterpillars in trees - Bt and hand removal have failed to correct the problem.
      (2) Method and Location: Apply pesticide with power sprayer to affected trees.
      (3) Conducted by: Pest management technicians.
      (4) Pesticide.
         (a) Common Name: Carbaryl.
         (b) EPA Registration Number: 1016-43.
      (5) Control Standard: No live caterpillars 5 days following treatment.
4. Precautions for Sensitive Areas: Do not apply where honey bees may be harmed.

5. Prohibited Practices: None.
6. Environmental Concerns: None.
7. Remarks: Bt should be applied to all leaf surfaces of the trees. Heavy rains following treatment may necessitate retreatment.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 21

PEST: Mice.

SITE: Food storage warehouses.

1. Purpose: To control mice in the commissary, troop issue storage facility, and AAFES Shoppettes.
2. Surveillance.
   a. Conducted by: Food service personnel, Veterinary Food Inspectors, and Pest Controllers.
   b. Methods: Visual observations for mouse damage or droppings.
   c. Frequency: Daily by warehouse, shoppette, and Veterinary personnel. Monthly by Pest Controllers.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Eliminate openings to the buildings which are greater than 1/4-inch. Particular attention should be given to loading doors since they do not always close tightly. Snap traps and sticky glue boards may be used to capture mice when an infestation is found.
         (b) Conducted by: Public works preventive maintenance personnel are usually requested to make building modifications such as weather stripping, door repair, etc. Facility personnel may set traps or place glue boards for minor infestations; the Pest Controllers usually set traps and glue boards when extensive trapping is required.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: utilize good sanitation to reduce food and water for mice. Clean up spilled food products immediately or daily at the latest. Remove bags, boxes and other potential harborage from food storage areas. Keep salvage areas and break areas clean at all times; keep food in closed containers. Store pallets of food at least 24 inches from walls to permit routine cleaning, inspection, and rodent control.
         (b) Conducted by: Warehouse or shoppette personnel.
   b. Chemical.
      (1) Basis for Treatment: Mice or evidence of mice found during surveillance.
      (2) Method and Location: Bait stations maintained as needed
      (3) Conducted by: Pest Controllers.
      (4) Pesticide.
         (a) Common Name: Talon (brodifacoum).

(b) EPA Registration Number: 10182-38 or 10182-41 (differ only in size of containers)

(5) Control Standard: No product damage from mice. If mouse baiting is instituted following evidence of a large mouse infestation, then significant reduction in the number of droppings should be seen in and around bait stations within the first 30 days following bait placement. If there is no evidence of mice following 30 days of baiting, then the bait stations should be removed unless there is a past history of repeated infestations (e.g., 3-4 times per year). Bait stations should be serviced at least monthly.

4. Precautions for Sensitive Areas: See pesticide labels for precautions.
5. Prohibited Practices: Do not place rodenticides where the bait will be accessible to children or pets. Bait should be placed in tamper proof containers.
6. Environmental Concerns: None.
7. Remarks: Pesticides should be considered the last option in controlling mice. As long as entry points into buildings exist, then trapping or baiting may be the only alternatives for control. The presence of spilled food products and/or poor housekeeping (e.g., pallets against walls, old boxes and equipment kept in the warehouse, etc.) will adversely impact any baiting or trapping program.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 22

PEST: Mice.

SITE: Family housing, offices, barracks, and other administrative buildings.

1. Purpose: To control mice in the family quarters and in other administrative areas on the installation.
2. Surveillance.
   a. Conducted by: Building occupants.
   b. Methods: Visual observations for mouse damage or droppings.
   c. Frequency: As required.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Snap traps and sticky glue boards may be used to capture mice when an infestation is found these items can be obtained from Self-Help. Eliminate openings to the building which are greater than 1/4-inch; particular attention should be given to doors and areas on the outside of the building where pipes and other utilities lines enter.
         (b) Conducted by: Facility personnel may Bet traps or place glue boards for minor infestations; the Pest Controllers usually Bet traps and glue boards when extensive trapping is required. Public works preventive maintenance personnel are usually requested to make building modifications such as weather stripping, door repair, etc.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Utilize good sanitation to reduce food and water for mice. Clean up spilled food products immediately or daily at the latest. Remove bags, boxes and other potential harborage from basements, kitchens, closets, etc.
         (b) Conducted by: Building occupants.
   b. Chemical.
      (1) Basis for Treatment:
      (2) Method and Location: None.
      (3) Conducted by:
      (4) Pesticide.
         (a) Common Name:
         (b) EPA Registration Number:

(5) Control Standard:

4. Precautions for Sensitive Areas:
5. Prohibited Practices:
6. Environmental Concerns: None.
7. Remarks: A's long as entry points into buildings exist, then trapping may only be successful as long as other mice do not enter from the outside. The presence of spilled food products and/or poor housekeeping (e.g., boxes and equipment kept in basements, closets, etc.) will provide harborage for mice, allowing them to breed in the structure. If this occurs, and trapping by occupants fails to control the problem, then the Pest Controllers should be contacted to evaluate the situation.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 23

PEST: Birds (Pigeons, Blackbirds, Starlings, and Sparrows).

SITE: Warehouses, loading docks, and other buildings.

1. Purpose: To control birds which nest or roost in areas of buildings where they will damage or contaminate food products or other materiel.
2. Surveillance.
   a. Conducted by: Pest Controller.
   b. Methods: Visual observation.
   c. Frequency: As required in response to customer complaints.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Openings to the outside of the buildings should be screened or closed to prevent bird entry. Minor repairs can be done by occupants; major repairs may require work to be performed by Public Works preventive maintenance. Live traps can be used to capture and relocate birds from inside buildings and from roosting areas on or near buildings - this method works for pigeons, but is not especially effective for other birds.
         (b) Conducted by: Building occupants/Public Works.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Loading doors and unscreened windows or other openings should be kept closed when not in use. People should be discouraged from feeding birds, especially pigeons.
         (b) Conducted by: Building occupants.
   b. Chemical: Not used.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 24

PEST: Other Vertebrate Pests.

SITE: Cantonment area.

1. Purpose: To control vertebrate animals (stray dogs and cats, skunks, raccoons, etc.) in the main post and housing areas.
2. Surveillance.
   a. Conducted by: Pest Controllers/Military Police animal control
   b. Methods: Visual observation.
   c. Frequency: In response to complaints.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Live trapping with wire or solid cage traps.
         (b) Conducted by: Pest Controllers/Military Police animal control.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: None.
         (b) Conducted by:
   b. Chemical.
      (1) Basis for Treatment:
      (2) Method and Location: None.
      (3) Conducted by:
      (4) Pesticide. None
      (5) Control Standard:
4. Precautions for Sensitive Areas: None.
5. Prohibited Practices: None.
6. Environmental Concerns: None.
7. Remarks: Stray pets are apprehended by the Military Police and taken to the Veterinary Clinic. Wild vertebrates (OPOSSUM, raccoons, etc.) are trapped by the Pest Controller and released off the main post area and family housing.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 25

PEST: Snakes.

SITE: Cantonment area/other mission areas.

1. Purpose: To remove snakes, especially poisonous species, from the main post area or other areas where they interfere with the mission or other post activities.
2. Surveillance.
   a. Conducted by: All YPG personnel.
   b. Methods: Visual observation.
   c. Frequency: As necessary when snakes are encountered in an unwanted area.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Capture with snake loop and removal.
         (b) Conducted by: Pest Controllers.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Avoidance - if at all possible, bypass snakes. Snakes generally prefer to avoid people. Most encounters with snakes can be avoided by simply allowing the snake to leave the area. The biggest risk Of snake bites comes from people going out of their way to handle or otherwise provoke snakes into a defense attitude. If snakes cannot be avoided, the Military Police should be called. DO NOT HARM OR KILL SNAKES111
         (b) Conducted by: Personnel encountering snakes.
   b. Chemical.
      (1) Basis for Treatment:
      (2) Method and Location: None.
      (3) Conducted by: Contract Pest Control
      (4) Pesticide. None

4. Precautions for Sensitive Areas: None.
5. Prohibited Practices: None.
6. Environmental Concerns: None.
7. Remarks: Snakes, both poisonous and nonpoisonous, will be captured alive and removed to a location where they will not cause any harm or disrupt post activities.

INTEGRATED PEST MANAGEMENT OUTLINE NO. 26

PEST: Broadleaf Weeds.

SITE: Parade fields, lawns, and other common grassy areas.

1. Purpose: To control broadleaf weeds in lawns and grassy areas.
2. Surveillance.
   a. Conducted by: Contract Pest controllers
   b. Methods: Visual observations.
   c. Frequency: As needed through customer complaints.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Mowing grass to maintain a uniform height may result in control of some broadleaf weeds by preventing flower and seed formation. However, some weeds have the ability to adapt to mowing condition by flowering just above the surface of the ground, but below the height of most commercial mowers.
         (b) Conducted by: Pest Controllers/Roads and Grounds personnel.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Proper fertilization and watering of grassy areas promotes good grass growth. This practice will prevent many broadleaf weeds from taking hold and growing.
         (b) Conducted by: Roads and Grounds personnel and Contract personel.
   b. Chemical.
      (1) Basis for Treatment: Presence of broadleaf weeds in grass.
      (2) Method and Location: Selective herbicide application is performed Using a boom sprayer on Parade fields. Broadleaf weed control in family housing lawns is performed by a contractor; weed control is incorporated into a fertilizer application. Weeds in small grassy areas are treated with herbicide using a hand sprayer.
      (3) Conducted by: Roads and Grounds personnel in all areas except family housing which is treated under contract.
      (4) Pesticide.
         (a) Common Name: Weeder (2.4-D).
         (b) EPA Registration Number: 264ZAA.

(5) Control Standard: Broadleaf weed are killed within -two weeks following treatment.

4. Precautions for Sensitive Areas: See the pesticide label for precautions.
5. Prohibited Practices: None.
6. Environmental Concerns: None.
7. Remarks:

INTEGRATED PEST MANAGEMENT OUTLINE NO. 27

PEST: Broadleaf Weeds.

SITE: Golf course.

1. Purpose: To control broadleaf weeds on the Golf Course fairways.
2. Surveillance.
   a. Conducted by: Golf Course Superintendent.
   b. Methods: Visual observations.
   c. Frequency: Weekly through the early growing season (March through May) and biweekly from June through September.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Mowing grass to maintain a uniform height may result in control of some broadleaf weeds by preventing flower and seed formation. However, some weeds have the ability to adapt to mowing condition by flowering just above the surface of the ground, but below the height of most commercial mowers.
         (b) Conducted by: Golf Course maintenance personnel.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: Proper fertilization and watering of grassy areas promotes good grass growth. This practice will prevent many broadleaf weeds from taking hold and growing.
         (b) Conducted by: Golf Course maintenance personnel.
   b. Chemical.
      (1) Basis for Treatment: Presence of broadleaf weeds in grass.
      (2) Method and Location: Selective herbicide application is performed using a boom sprayer on the fairways. Weed control is incorporated into a fertilizer application early in the season. The fairways are treated with herbicide Using a boom sprayer when the combination weed and feed operations are not programmed.
      (3) Conducted by: Golf Course Superintendent.
      (4) Pesticide.
         (a) Common Name: Weedar (2,4-D).
         (b) EPA Registration Number: 264-ZAA.

(5) Control Standard: Broadleaf weed are killed within two weeks following treatment.

4. Precautions for Sensitive Areas: See the pesticide label for precautions.
5. Prohibited Practices: None.
6. Environmental Concerns: None.
7. Remarks:

INTEGRATED PEST MANAGEMENT OUTLINE NO. 28

PEST: All Vegetation.

SITE: Sidewalks, around building foundations, parking lots, fence lines, and airfields.

1. Purpose: To control all vegetation to reduce vegetative damage to paved surfaces, poles and fences, and to reduce the risk of fire or security breaches.
2. Surveillance.
   a. Conducted by: Pest Control Personnel.
   b. Methods: Visual observations.
   c. Frequency: March through August.
3. Pest Management Techniques.
   a. Nonchemical.
      (1) Type: Mechanical and Physical.
         (a) Method and Location: Weed eaters can be used, but are very labor-intensive. In addition, once vegetation is cut, new growth will quickly replace those parts of the plants which have been removed. This method is practical when very few sites (less than 10) are maintained.
         (b) Conducted by: Roads and Grounds personnel.
      (2) Type: Biological.
         (a) Method and Location: None.
         (b) Conducted by:
      (3) Type: Cultural.
         (a) Method and Location: None.
         (b) Conducted by:
   b. Chemical.
      (1) Basis for Treatment: Vegetation along fence lines, and vegetation on or along sidewalks, building perimeters, airfields, expansion joints, and runway lights.
      (2) Method and Location: Hand or power sprayer. Chemical is applied IAW label directions to unwanted vegetation.
      (3) Conducted by: Roads and Grounds personnel.
      (4) Pesticide.
         (a) Common Name: Hyvar.
         (b) EPA Registration Number: 352-346.
      (5) Pesticide.
         (a) Common Name: Arsenal.

(b) EPA Registration Number: 241-273.

(6) Control Standard: Vegetation is killed within two weeks following treatment.

4. Precautions for Sensitive Areas: Avoid contact with foliage, green stems or fruit of crops, desirable plants and trees. Avoid direct application to any body of water. Avoid drift which could damage desirable plants; do not spray if wind is over 5 miles per hour.
5. Prohibited Practices: None.
6. Environmental Concerns: None.
7. Remarks: Glyphosate causes eye irritation and is harmful if swallowed. It may also cause skin irritation. Wear chemical-resistant gloves and goggles. Do not mix, store or apply this product in galvanized steel or unlined steel containers (except stainless steel). This product reacts with such containers to produce hydrogen gas. This gas mixture could flash or explode.

APPENDIX B- GOLF COURSE
GOLF COURSE INTEGRATED PEST MANAGEMENT OUTLINES

APPENDIX B

GOLF COURSE INTEGRATED PEST MANAGEMENT OUTLINES

PAGE

GOLF COURSE INTEGRATED PEST MANAGEMENT OUTLINE NO. 1

PEST: Broadleaf Weeds (Clovers).

SITE: Golf course.

1. **Purpose: To maintain play on the Golf Course.**
2. **Surveillance.**
   a. **Conducted by: Golf Course Superintendent (Certified).**
   b. **Methods: Visual observations.**
   c. **Frequency: Weekly through the growing season.**
3. **Pest Management Techniques.**
   a. **Nonchemical.**
      (1) **Type: Mechanical and Physical.**
         (a) **Method and Location: Mowing grass properly results in control of some broadleaf weeds by preventing flower and seed formation. However, some weeds have the ability to adapt to mowing.**
         (b) **Conducted by: Golf Course maintenance personnel.**
      (2) **Type: Biological. None.**
      (3) **Type: Cultural.**
         (a) **Method and Location: Proper fertilization and watering of grass promotes good grass growth. This practice prevents many broadleaf weeds from taking hold and growing.**
         (b) **Conducted by: Golf Course maintenance personnel.**
   b. **Chemical.**
      (1) **Basis for Treatment: Presence of broadleaf weeds on greens, and tees. Weeds covering 25 – 30% of an area in fairways.**
      (2) **Method and Location: Applications are performed using a boom sprayer.**
      (3) **Conducted by: Golf Course Superintendent.**
      (4) **Pesticide.**
         (a) **IPM practices or approved EPA product or (PUP).**
         (b) **Follow labeled directions.**
      (5) **Control Standard: Broadleaf weeds are killed within two weeks following treatment.**
4. **Precautions for Sensitive Areas: Treatment is not done when wind exceeds 5 MPH..**
5. **Prohibited Practices: None.**
6. **Environmental Concerns: None.**
7. **Remarks:**

GOLF COURSE INTEGRATED PEST MANAGEMENT OUTLINE NO. 2

PEST: Crabgrass.

SITE: Golf course greens, tees and sometimes fairways.

1. **Purpose: To maintain play on the Golf Course.**
2. **Surveillance.**
   a. **Conducted by: Golf Course Superintendent (Certified).**
   b. **Methods: Visual observations.**
   c. **Frequency: Daily in April.**
3. **Pest Management Techniques.**
   a. **Nonchemical.**
      (1) **Type: Mechanical and Physical.**
         (a) **Method and Location: Hand removal with screw drivers on greens.**
         (b) **Conducted by: Golf Course maintenance personnel.**
      (2) **Type: Biological. None.**
      (3) **Type: Cultural.**
         (a) **Method and Location: Proper fertilization and watering of grass promotes good grass growth. This practice prevents many weeds from taking hold and growing.**
         (b) **Conducted by: Golf Course maintenance personnel.**
   b. **Chemical.**
      (1) **Basis for Treatment: Crabgrass present the previous year.**
      (2) **Method and Location: Applications are performed using a boom sprayer.**
      (3) **Conducted by: Certified Pesticide Applicator.**
   c. **Pesticide. PUP**
   d. **IPM practices or an approved EPA product.**
   e. **Follow labeled directions.**
4. **Control Standard: 90% control.**
5. **Precautions for Sensitive Areas: Treatment is not done when wind exceeds 5 MPH.**
6. **Prohibited Practices: None.**
7. **Environmental Concerns: Don't apply directly to water.**
8. **Remarks: Runoff is minimized due to very sandy soil.**

GOLF COURSE INTEGRATED PEST MANAGEMENT OUTLINE NO. 3

PEST: Winter Annuals.

SITE: Golf course fairways.

1. **Purpose: To maintain play on the Golf Course.**
2. **Surveillance.**
   a. **Conducted by: Golf Course Superintendent (Certified).**
   b. **Methods: Visual observations.**
   c. **Frequency: One time survey each February.**
3. **Pest Management Techniques.**
   a. **Nonchemical.**
      (1) **Type: Mechanical and Physical.**
         (a) **Method and Location: Mowing grass properly results in control of some broadleaf weeds by preventing flower and seed formation. However, some weeds have the ability to adapt to mowing.**
         (b) **Conducted by: Golf Course maintenance personnel.**
      (2) **Type: Biological. None.**
      (3) **Type: Cultural.**
         (a) **Method and Location: Proper fertilization and watering of grass promotes good grass growth. This practice prevents many broadleaf weeds from taking hold and growing.**
         (b) **Conducted by: Golf Course maintenance personnel.**
   b. **Chemical.**
      (1) **Basis for Treatment: Weeds covering 25 – 30% of an area in fairways.**
      (2) **Method and Location: Applications are performed using a boom sprayer.**
      (3) **Conducted by: Certified pesticide applicator.**
      (4) **Pesticide. PUP**
         (a) **IPM or an approved registered EPA product.**
      (5) **Control Standard: 95 – 100% control.**
   c. **Chemical.**
      (1) **Basis for Treatment: Weeds covering 25 – 30% of an area in fairways.**
      (2) **Method and Location: Applications are performed using a boom sprayer.**
      (3) **Conducted by: Certified pesticide applicator.**
      (4) **Pesticide (PUP).**
         (a) **IPM practices or an approved EPA product.**
         (b) **Follow labeled directions.**
      (5) **Control Standard: 95 – 100% control.**
4. **Precautions for Sensitive Areas: Treatment is not done when wind exceeds 5MPH..**
5. **Prohibited Practices: None.**
6. **Environmental Concerns: None.**

7. Remarks: Application rates are for sandy soils.

GOLF COURSE INTEGRATED PEST MANAGEMENT OUTLINE NO. 4

1. **PEST: General Weeds and Poison Ivy.**
2. **SITE: Golf course sand traps, around signs, cart paths, and around ornamental plantings.**

3. **Purpose: To minimize hand trimming and control poison ivy on the Golf Course.**
4. **Surveillance.**
   a. **Conducted by: Golf Course Superintendent (Certified) and Golf Course Maintenance Personnel.**
   b. **Methods: Visual observations.**
   c. **Frequency: Weekly by the Superintendent, daily by Maintenance personnel.**
5. **Pest Management Techniques.**
   a. **Nonchemical.**
      (1) **Type: Mechanical and Physical.**
         (a) **Method and Location: Hand removal where the number of weeds is small.**
         (b) **Conducted by: Golf Course maintenance personnel.**
      (2) **Type: Biological. None.**
      (3) **Type: Cultural. None.**
   b. **Chemical.**
      (1) **Basis for Treatment: Weeds covering 25 – 30% of an area in fairways.**
      (2) **Method and Location: Applications are performed using a boom sprayer.**
      (3) **Conducted by: Certified pesticide applicator.**
      (4) **Pesticide (PUP).**
         (a) **IPM practices using an approved EPA product.**
         (b) **Follow labeled directions.**
      (5) **Control Standard: 95 – 100% control.**
6. **Precautions for Sensitive Areas: Treatment is not done when wind exceeds 5MPH.**
7. **Prohibited Practices: None.**
8. **Environmental Concerns: None.**
9. **Remarks: No galvanized steel sprayers are used.**

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GOLF COURSE INTEGRATED PEST MANAGEMENT OUTLINE NO. 5

PEST: Weed Grasses.

SITE: Golf Course Greens, Tees and Fairways.

1. **Purpose: To maintain play on the Golf Course.**
2. **Surveillance.**
   a. **Conducted by: Golf Course Superintendent (Certified) and Golf Course Maintenance personnel.**
   b. **Methods: Visual observations.**
   c. **Frequency: Weekly by the Superintendent, daily by Maintenance personnel.**
3. **Pest Management Techniques.**
   a. **Nonchemical.**
      (1) **Type: Mechanical and Physical. None.**
      (2) **Type: Biological. None.**
      (3) **Type: Cultural.**
         (a) **Method and Location: Proper fertilization and watering of grass promotes good grass growth. This practice prevents many weeds from taking hold and growing.**
         (b) **Conducted by: Golf Course maintenance personnel.**
   b. **Chemical.**
      (1) **Basis for Treatment: Weeds covering 30% of an area in fairways.**
      (2) **Method and Location: Applications are performed using a boom sprayer.**
      (3) **Conducted by: Certified pesticide applicator.**
      (4) **Pesticide (PUP).**
         (a) **IPM practices with an approved EPA product**
         (b) **Follow labeled directions.**
   c. **Control Standard: 95 – 100% control after three applications.**
4. **Precautions for Sensitive Areas: Treatment is not done when wind exceeds 5 MPH..**
5. **Prohibited Practices: None.**
6. **Environmental Concerns: None**

GOLF COURSE INTEGRATED PEST MANAGEMENT OUTLINE NO. 6

PEST: Fungus Diseases of Turf.

SITE: Golf Course Greens, Tees and Fairways.

1. **Purpose: To maintain play on the Golf Course.**
2. **Surveillance.**
   a. **Conducted by: Golf Course Superintendent (Certified) and Golf Course Maintenance personnel.**
   b. **Methods: Visual observations.**
   c. **Frequency: Weekly by the Superintendent, daily by Maintenance personnel.**
3. **Pest Management Techniques.**
   a. **Nonchemical.**
      (1) **Type: Mechanical and Physical. None.**
      (2) **Type: Biological. None.**
      (3) **Type: Cultural.**
         (a) **Method and Location: Proper fertilization and watering of grass promotes good grass growth.**
         (b) **Conducted by: Golf Course maintenance personnel.**
   b. **Chemical.**
      (1) **Basis for Treatment: Presence of fungi on greens and tees.**
      (2) **Method and Location: Applications are performed using a boom sprayer.**
      (3) **Conducted by: Certified pesticide applicator.**
      (4) **Pesticide (PUP).**
         (a) **An approved EPA product.**
         (b) **Follow labeled directions**
      (5) **Control Standard: No turf mortality.**
   c. **Chemical.**
      (1) **Basis for Treatment: Presence of fungi on greens and tees.**
      (2) **Method and Location: Applications are performed using a boom sprayer.**
      (3) **Conducted by: Certified pesticide applicator.**
      (4) **Pesticide.**
         (a) **An approved EPA product.**
         (b) **Follow labeled directions**
      (5) **Control Standard: No turf mortality.**
4. **Precautions for Sensitive Areas: Treatment is not done when wind exceeds 5 MPH..**
5. **Prohibited Practices: None.**
6. **Environmental Concerns: None.**
7. **Remarks: None.**

GOLF COURSE INTEGRATED PEST MANAGEMENT OUTLINE NO. 7

PEST: Cutworms, armyworms and sod webworms.

SITE: Golf Course Greens, Tees and Fairways.

1. **Purpose: To maintain play on the Golf Course.**
2. **Surveillance.**
   a. **Conducted by: Golf Course Superintendent (Certified) and Golf Course Maintenance personnel.**
   b. **Methods: Visual observations for castings.**
   c. **Frequency: Weekly by the Superintendent, daily by Maintenance personnel.**
3. **Pest Management Techniques.**
   a. **Nonchemical.**
      (1) **Type: Mechanical and Physical. None.**
      (2) **Type: Biological. None.**
      (3) **Type: Cultural.**
         (a) **Method and Location: Proper fertilization and watering of grass promotes good grass growth.**
         (b) **Conducted by: Golf Course maintenance personnel.**
   b. **Chemical.**
      (1) **Basis for Treatment: Presence of two or three castings on greens and tees or three castings per square yard on fairways.**
      (2) **Method and Location: Applications are performed using a boom sprayer.**
      (3) **Conducted by: Certified pesticide applicator.**
      (4) **Pesticide(PUP).**
         (a) **An approved EPA product**
         (b) **Follow labeled directions.**
   c. **Control Standard: 70 – 75% control.**
4. **Precautions for Sensitive Areas: Treatment is not done when wind exceeds 5 MPH.**
5. **Prohibited Practices: None.**
6. **Environmental Concerns: None.**
7. **Remarks: May need repeat applications if re-infestation occurs.**

GOLF COURSE INTEGRATED PEST MANAGEMENT OUTLINE NO. 8

PEST: White Grubs (Scarab Beetle Larvae).

SITE: Golf Course Greens, Tees, Fairways and Roughs.

1. **Purpose: To maintain play on the Golf Course.**
2. **Surveillance.**
   a. **Conducted by: Golf Course Superintendent (Certified) and Golf Course Maintenance personnel.**
   b. **Methods: Visual observations.**
   c. **Frequency: Weekly by the Superintendent, daily by Maintenance personnel.**
3. **Pest Management Techniques.**
   a. **Nonchemical.**
      (1) Type: Mechanical and Physical. None.
      (2) Type: Biological. None.
      (3) Type: Cultural. None.
   b. **Chemical.**
      (1) Basis for Treatment: Presence of three grubs per square foot or more.
      (2) Method and Location: Applications are performed using a boom sprayer.
      (3) Conducted by: Certified pesticide applicator.
      (4) Pesticide (PUP.

      (a) An approved EPA product.

      (b) Follow labeled direction.

   c. Control Standard: No turf mortality.

4. **Precautions for Sensitive Areas: Treatment is not done when wind exceeds 5 MPH.**
5. **Prohibited Practices: None.**
6. **Environmental Concerns: None.**
7. **Remarks: None.**

GOLF COURSE INTEGRATED PEST MANAGEMENT OUTLINE NO. 9

PEST: Spike Rush, Cattails and other Aquatic Weeds.

SITE: Golf Course Water Hazards.

1. **Purpose: To maintain play on the Golf Course.**
2. **Surveillance.**
   a. **Conducted by: Golf Course Superintendent (Certified) and Golf Course Maintenance personnel.**
   b. **Methods: Visual observations.**
   c. **Frequency: Weekly by the Superintendent, daily by Maintenance personnel.**
3. **Pest Management Techniques.**
   a. **Nonchemical.**
      (1) **Type: Mechanical and Physical.**
         (a) **Method and Location: Weed-eater where weeds can be reached. Grapple hooks for weeds that form mats.**
         (b) **Conducted by: Golf Course Maintenance Personnel.**
      (2) **Type: Biological.**
         (a) **Method and Location: Triploid Grass Carp in ponds.**
         (b) **Conducted by: Golf Course Superintendent.**
         (c) **Stocking Rate: 40 fish per acre of ½ pound fish**
      (3) **Type: Cultural.**
         (a) **Method and Location: Steep banks are used on ponds to minimize area where emergent weeds can grow.**
         (b) **Conducted by: Golf Course maintenance personnel.**
   b. **Chemical.**
      (1) **Basis for Treatment: Presence of fungi on greens and tees.**
      (2) **Method and Location: Applications are performed using a boom sprayer.**
      (3) **Conducted by: Certified pesticide applicator.**
      (4) **Pesticide (PUP.**
         (a) **An approved EPA product.**
         (b) **Follow labeled directions.**
      (5) **Control Standard: 90 – 95% mortality of treated weeds.**
4. **Precautions for Sensitive Areas: Treatment is not done when wind exceeds 5 MPH.**
5. **Prohibited Practices: None.**
6. **Environmental Concerns: None.**

GOLF COURSE INTEGRATED PEST MANAGEMENT OUTLINE NO. 10

PEST: Canada Geese.

SITE: Golf Course Greens, Tees and Fairways.

1. **Purpose: To maintain play on the Golf Course by eliminating goose droppings.**
2. **Surveillance.**
   a. **Conducted by: Golf Course Superintendent (Certified) and Golf Course Maintenance personnel.**
   b. **Methods: Visual observations.**
   c. **Frequency: Daily by the Superintendent and Maintenance personnel.**
3. **Pest Management Techniques.**
   a. **Nonchemical.**
      (1) **Type: Mechanical and Physical. None.**
      (2) **Type: Biological.**
         (a) **Method and Location: Goose control dog.**
         (b) **Conducted by: Golf Course Superintendent.**
      (3) **Type: Cultural. None.**
   b. **Chemical. None.**
4. **Control Standard: No goose droppings on greens and tees.**
5. **Precautions for Sensitive Areas: None.**
6. **Prohibited Practices: None.**
7. **Environmental Concerns: None.**
8. **Remarks: A border collie is leased from Flyaway Farm and Kennels.**

GOLF COURSE INTEGRATED PEST MANAGEMENT OUTLINE NO.11

PEST: Annual Bluegrass.

SITE: Golf course greens, tees and sometimes fairways.

1. **Purpose: To maintain play on the Golf Course.**
2. **Surveillance.**
   a. **Conducted by: Golf Course Superintendent (Certified).**
   b. **Methods: Visual observations.**
   c. **Frequency: Weekly in August and through the Fall.**
3. **Pest Management Techniques.**
   a. **Nonchemical.**
      (1) **Type: Mechanical and Physical. None.**
      (2) **Type: Biological None**
      (3) **Type: Cultural.**
         (a) **Method and Location: Proper fertilization and watering of grass promotes good grass growth. This practice prevents many weeds from taking hold and growing.**
         (b) **Conducted by: Golf Course maintenance personnel.**
   b. **Chemical.**
      (1) **Basis for Treatment: Bluegrass present at the time of treatment or the previous year.**
      (2) **Method and Location: Applications are performed using a boom sprayer.**
      (3) **Conducted by: Certified Pesticide Applicator.**
      (4) **Pesticide (PUP).**
         (a) **An approved EPA product.**
         (b) **Follow labeled directions**
         (c) **Control Standard 90% control.**
   c. **Chemical.**
      (1) **Basis for Treatment: Bluegrass seedlings present at the time of treatment or the previous year in areas over-seeded with ryegrass.**
      (2) **Method and Location: Applications are performed using a boom sprayer.**
      (3) **Conducted by: Certified Pesticide Applicator.**
      (4) **Pesticide.**

         Common Name: ethofinnestate (Pro Grass).

         (a) **EPA Registration Number: 45639-68.**
         (b) **Rate/concentration: 1.5 pounds per acre in sufficient water for even coverage.**
         (c) **Control Standard: 90% control.**

4. **Precautions for Sensitive Areas: Treatment is not done when wind exceeds 5MPH.**
5. **Prohibited Practices: None.**
6. **Environmental Concerns: None.**
7. **Remarks Runoff is minimized due to very sandy soil.**

APPENDIX C

ANNUAL WORKLOAD FOR IDENTIFIED PESTS:

The Annual Workload has changed dramatically do to contracting. The leading pests on post are roaches, ants, fire ants, ticks, fleas and stinging insects. The contractor's workload has changed as well, do to IPM. IPM has changed the entire structure of how we perform pest management on Fort Bragg. Service orders are handled on a call in, as well as monthly services. We have scheduled and unscheduled service here at Fort Bragg. The scheduled services are those which are treated once a month. These services are maintained by using a spread sheet in Excel. Each month new spread sheets is given to the contractor to perform their monthly or scheduled services and are turned in at the end of each month. The unscheduled services are performed by a service order. Once a service order is called in, it printed by the IPMC and issued with date stamp and issued to the contractor for service. Upon completion of service order the contractor turns all work performed to the Installation Pest Management Coordinator (IPMC), for proper disposal. The primary contractor is Canady's Services. There is no in-house pest control done at this time. Operation Maintenance Division (OMD) does herbicide on the installation for DPW. Other personnel doing pest management on Fort Bragg is Employment Source, Trulawn, and Brickman. These contractors provide services mainly herbicide for Family Housing and other entity that in-house ground's maintenance cannot perform. Also Womack hospital does ground mai

SCOPE OF WORK: The Contractor shall provide all personnel, management, materials, supplies, transportation, supervision, general and specialized equipment and clothing required to perform pest control services, as defined in the Performance Work Statement (PWS) and all other terms, conditions and provisions contain therein, except as specified in Section 13 as government furnished property. The work includes but is not limited to the performance of nuisance, structural, stored products, mosquito and biting fly, fly, ornamental turf, weed and other miscellaneous pest control services. The contractors are certified in the following categories Ornamental and turf pest Control, Industrial, Institutional, Structural and health Related Pest (includes wood-destroying, Vertebrate Pest control, and Fumigation); Public Health Pest Control.

APPENDIX D

HAZARDOUS WASTE MANAGEMENT

1. The Resource Conservation and Recovery Act (RCRA) provides for a national program to protect public health and the environment by requiring proper management of hazardous wastes. The program addresses all stages of hazardous waste handling from generation to ultimate disposal (the "cradle to gravel' concept). This management plan requires a manifest system of the waste from the generation point through storage and transportation phases to final treatment and disposal.
2. RCRA defines a hazardous waste as a solid waste that may cause or significantly contribute to serious illness or death or poses a substantial threat to human health or the environment when improperly managed.
3. EPA has listed many chemical wastes as hazardous if they exhibit any one of four hazard waste characteristics: ignitability, corrosiveness, reactivity, and toxicity.
4. Subtitle C, Subpart B (Section 2002) of the RCRA regulations outlines standards applicable to generators of hazardous wastes. The standards establish requirements respecting:
    a. Record keeping practices that accurately identify the quantities of such hazardous waste generated. The constituents which are significant in quantity or in potential harm to human health or the environment and the disposition of such wastes.
    b. Labeling practices for any containers used for the storage, transport, or disposal of such hazardous waste reported, which will identify such waste.
    c. Use of appropriate containers for such hazardous waste.
    d. Furnishing of information (material safety data sheets) on the chemical composition and characteristics of such hazardous wastes to persons transporting, treating, storing, or disposing of such wastes.
    e. Use of a manifest system to assure that all such hazardous waste generated is designated for treatment, storage or disposal in treatment, storage or disposal facilities (other than facilities on the premises where the waste is generated), for which a permit has been issued as provided in this subtitle.
    f. Submission of reports to the federal or state agencies, if appropriate, setting out the quantities of hazardous waste identified or listed that have been generated during a particular time period; thus, the generator is responsible for maintaining accurate/detailed records of produced and stored hazardous waste. Also, generated waste must be stored in non-leaking, marked containers (toxic substance plan and the installation spill prevention plan) to prevent any contamination of the environment.
5. The Integrated Pest Management, contractors, and Environmental Compliance Branch will abide by these established requirements.

APPENDIX E

PEST MANAGEMENT OPERATIONS

1. PURPOSE. To outline procedures for handling pesticides and operating pest control equipment, and safety precautions associated with these operations.

2. GENERAL.

   a. Those pesticides generally used on Fort Bragg include insecticides, herbicides and rodenticides.

   b. Handling concentrated pesticides during shipment, storage and preparation of dilute formulations and during application of dilute formulations is hazardous in that personal contamination can result in extreme illness, skin damage or death.

   c. Pesticide applications shall be carried out by certified pest controllers or under the direct supervision of a certified pest controller. Note: The term "under the direct supervision of" means in the direct line of sight of the certified pest controller.

   d. Pesticides shall be procured under the supervision and approval of the Pest Management Coordinator.

   e. All locations used for pesticide storage and mixing shall be marked to designate pesticide operations.

3. PROCEDURES.

   a. Training and Certification.

      (1) The Pest Management Coordinator and personnel who evaluate the quality of work of pest control contracts (Quality Assurance Evaluator - QAE) must also be certified. To minimize costs, the Pest Management Coordinator can also be the QAE.

      (2) When pest control requirements necessitate that uncertified personnel assist the certified pest controller, training of these personnel in the handling, mixing and application of pesticides shall be done by the certified pest controller.

   b. Pest Control Equipment.

      (1) Only authorized, trained, personnel shall operate pest control equipment.

      (2) Cleaning and storage of pest control equipment shall be done only by authorized, trained personnel in accordance with manufacturer's instruction manuals for the specific equipment item.

      (3) Maintenance and adjustment of pest control equipment shall be carried out in accordance with the manufacturer's instructions for the specific equipment item.

      (4) All equipment used in pest control activities shall be marked "Contaminated with Pesticides".

   c. Protective Clothing and Equipment.

      (1) Protective clothing and equipment shall be available to installation pest control personnel and, when not in use, stored in the space provided for this use in Building 3-1335. The following minimum protective clothing and equipment will be provided:

         (a) Chemical resistant gloves, aprons, and boots.

         (b) Full face shield.

         (c) Splash goggles.

(d) Respirators approved for use with pesticides used at Fort Bragg.

(e) Work uniform or coveralls.

(2) Work uniforms shall be worn when handling or applying pesticides. External personal clothing shall not be worn during pesticide operations.

(3) Work uniforms that have become contaminated with pesticides through spillage or during normal use shall be returned to the pest control shop for replacement and laundering. Laundering shall be done at the installation's expense; operators shall not take pesticide contaminated clothing home to be laundered.

(4) Splash goggles, face shields and pesticide respirators shall be cleaned and sanitized as necessary.

(5) All chemical resistant protective equipment, such as aprons, gloves and boots, shall be washed at the end of each day of use and properly stored in the lockers.

(6) Respirators shall be worn during the following operations:

(a) While handling pesticide concentrates and adding diluents to spray tanks.

(b) While spreading granular pesticides when there is danger of breathing the dust.

(c) While applying any pesticide which states on the label that the vapors or dusts should not be breathed.

(d) When the operator is located downwind during any spraying operation.

(e) While cleaning up a pesticide spill.

(7) Approved respirators will effectively prevent the inhalation of pesticide fumes and dust if the procedures for fitting, cleaning, cartridge replacement and storage are conducted as follows:

(a) Each respirator face piece will be numbered for identification.

(b) Masking tape will be attached to each respirator cartridge when it is placed in the respirator. The user will write the amount of time the cartridge is used on this tape. The user will replace the cartridges when eight hours of use have been recorded, when the odor of pesticides is noticed while wearing the respirator, when breathing resistance becomes excessive, or in accordance with manufacturer's instructions.

(c) Each individual will use the same respirator face piece for the duration of the job. If the facepiece becomes dirty or contaminated, it will be cleaned and sanitized. Facepieces will be cleaned and sanitized before being used by different individuals.

(d) Cartridges will be threaded into receptacles making sure that the gaskets are in proper position and hand-tightened to prevent damage to threads or gaskets.

(e) To don the respirator, the face piece should be fitted onto the bridge of the nose, making sure the individual is able to breathe through the nose. Then the bottom of the face piece should be swung into contact with the chin. Position headbands with the long straps above the ears and the short straps below the ears. The adjustment slides can be moved to achieve a comfortable fit.

(f) To test the respirator for leakage, remove the exhalation valve cover and hold the rubber valve against the seat. Create a slight positive pressure inside the face cushion by exhaling. If any leakage is detected around the face seal, readjust head harness' straps and repeat the test until there is no leakage. If other than face seal leakage is detected, the condition must be investigated and corrected before another test is made. The facepiece

must pass this test before the user should attempt to enter any toxic atmosphere. The mask will not furnish protection unless all inhaled air is drawn through approved cartridges. Replace the valve cover after completion of the test. This procedure does not negate the need to be fit-tested for the respirator by medical personnel, but is used as a final check on the device before use. Note. The procedures for use of respirators mentioned above applies to devices which rely on replaceable cartridges. When disposable respirators are used, the entire mask, including face piece and cartridges, is discarded and replaced. Replacement of disposable respirators will follow the same procedures as those outlined for cartridges in paragraph 3c (7) (b), above.

(g) Consult Appendix H of this plan for further information concerning respirator maintenance.

d. Pesticide Storage.

(1) All pesticides shall be stored in Building 3-1335 or under the adjacent covered enclosure. The pesticides shall be stored in their original containers. Building 3-1335 and the covered enclosure area shall be kept locked when not in use.

(2) All pesticides shall be segregated as to kind of pesticide during storage. Labels on all containers shall be visible at all times. Pesticides that are classed as moderately or highly toxic must be stored in facilities that meet the criteria described in 40 CFR 165.10 (Reference 4e).

(3) The Fire Department shall be furnished with an inventory of the kinds and amounts of pesticides present at each storage or mixing location. This inventory shall be updated at least annually, at the end of each calendar year.

e. Pesticide Transportation.

(1) Only authorized operators shall transport pesticides.

(2) When transporting pesticides, operators shall have with them protective clothing and equipment.

(3) Pesticides will not be transported in the cabs or passenger compartments of vehicles.

(4) Pesticides will not be left unattended or unsecured in the vehicle.

f. Pesticide Mixing.

(1) Only authorized, trained and certified personnel shall handle and mix pesticides.

(2) Dispensing concentrates and mixing of all liquid pesticides shall be done on the curbed paved area adjacent to Building 3-1335.

(3) Any pesticide contamination on the skin shall immediately be washed off with soap and water. Contamination of the eyes shall be flushed generously with water. After washing, the individual will secure immediate medical attention.

(4) Pesticide containers shall be returned to the storage sites upon completion of mixing.

(5) All pesticides shall be applied in accordance with the label directions. The certified pest controller shall determine what pesticide to use, what rate to use and how it should be mixed and applied.

(6) When mixing liquid pesticides, the spray tank shall be filled 1/3 to 1/2 full with the diluents, the pesticide shall be added, and the spray tank shall then be filled with diluents. All pesticide mixtures shall be agitated.

g. Pesticide Application.

(1) Only authorized, trained and certified personnel shall apply pesticides.

(2) Pesticide application shall be carried out in accordance with the label directions of the pesticide used and the manufacturer's operating instructions for the equipment used.

(3) Pesticide application operations shall be conducted as follows:

(a) Dry, granular pesticide application shall be conducted when the wind speed is less than 10 miles per hour to prevent drift. An approved respirator shall be worn whenever required by the pesticide label. The operator shall wear a respirator when pesticide dust is a hazard.

(b) Outdoor liquid pesticide application shall be conducted when the wind speed is less than 10 miles per hour to prevent drift. Approved respirators shall be worn whenever required by the pesticide label.

h. Pesticide Spill Cleanup Kit.

(1) A pesticide spill cleanup kit is located in Building 3-1335. Contents of this kit are listed in Appendix K of this plan (latest revision).

(2) The pesticide spill cleanup kit shall be used in accordance with TB MED 502, Appendix L (latest revision). All items in the kit that have been used shall be replaced as soon as possible.

i. Pesticide Container Disposal.

(1) Liquid pesticide containers shall be triple rinsed, with the rinse water placed in the spray tank and used as a diluent. The empty container shall then be crushed and placed in a sanitary landfill. Pesticide containers shall not be used for any purpose except that of holding the pesticide shown on the label.

(2) Dry, granular pesticide containers (bags and/or sacks) shall be emptied thoroughly and placed in a sanitary landfill. Pesticide bags or sacks shall not be burned or stored near heat or open flame.

j. Reporting.

(1) Adequate records of all pest management operations performed by engineer personnel and contractors will be maintained by the Pest Management Coordinator.

(2) The pest controller will maintain complete daily pesticide application and surveillance records using alternate forms instead of DD Form 1532-1 (Pest Management Maintenance Records). These records will account for all operations and will provide a permanent historical record of pest control operations for each building, structure, or outdoor site.

(3) Alternate forms instead of DD Form 1532 (Pest Management Report) will be used to report all pest control operations. The Pest Management Coordinator shall complete and submit the monthly Pest Management Reports in accordance with AR 420-76.

4. REFERENCES.

a. AR 200-5, Pest Management, 29 NOVEMBER 1999.

b. TM 5-632, Military Entomology Operational Handbook, December 1973.

c. Equipment Manufacturer's Handbooks and Manuals.

d. Pesticide Labels and Manufacturer's Literature.

e. Title 40, Code of Federal Regulations, 1993 rev, Section 165.10, Recommended Procedures and Criteria for Storage of Pesticides and Pesticide Containers.

f. Appendix K, Pesticide Spill Cleanup Management (latest revision).

g. Appendix F, Maintenance and Care of Respirators (latest revision).

APPENDIX F

PERSONAL PROTECTIVE EQUIPMENT

INDIVIDUAL PPE TRAINING RECORD

EMPLOYEE NAME:_____ DATE:_____

SSN:_____

INITIAL TRAINING RECEIVED:_____

ADDITIONAL TRAINING

SUBJECT:_____ DATE:_____
SUBJECT:_____ DATE:_____
SUBJECT:_____ DATE:_____

PPE ISSUED

RESPIRATOR

TYPE:_____ SIZE:_____

CARTRIDGE TYPE:_____ PREFILTER:_____

EYE PROTECTION

GOGGLES:_____ SAFETY GLASSES:_____ FACE SHIELD:_____

GLOVES

TYPE:_____ SIZE:_____

BOOTS

TYPE:_____ SIZE:_____

COVERALLS

TYPE:_____ QUANTITY:_____ SIZE:_____

SAFETY SHOES

TYPE:_____ SIZE:_____

SAFETY HELMET

TYPE:_____ SIZE:_____

HEARING PROTECTION

TYPE:_____ SIZE:_____

I certify that the employee named above received training on how to properly put on, take off, and maintain their Personal Protective Equipment. The limitations of each item of PPE was explained and what golf course operations require the use of each item of PPE was fully explained.

Supervisor's Signature & Date

APPENDIX G

SAFETY

1. Nearly all pesticides are dangerous in one way or another to the Pest Controller, the environment, and non targeted species of both plant and animal, but if used properly, pesticides can be very beneficial to man and his food supply. It is the responsibility of the Pest Controller for proper application.
2. TOXICITY OF MATERIALS: Listed below is an example of the acceptable methods for grouping pesticides by toxicity:
   a. Inorganic Pesticides - Arsenic Trioxide, Zinc Phosphate.
   b. Synthetic Organic Pesticides:
      (1) Organophosphate - Malathion, Dursban.
      (2) Chlorinated hydrocarbons - Lindane.
      (3) Carbamates - Sevin, Ficam, Baygon.
   c. Botanical Pesticides - Nicotine, Pyrethrum.
   d. Rodenticides - Warfarin and single dose anticoagulant.
   e. Fumigants - Methyl Bromide, Aluminum Phosphide.
3. INORGANIC PESTICIDES - These pesticides are formulated from heavy metals and are extremely toxic to all warm blooded animals. These pesticides are seldom used and only after other pest control methods have been tried.
4. SYNTHETIC ORGANIC PESTICIDES:
   a. Organophosphate Compounds - This group of pesticides has a wide range of toxicity from a very low order, as in Malathion, to a high order, as in Parathion. Pesticides in this group affect the central nervous system.
   b. Chlorinated Hydrocarbons -Many pesticides used at Fort Ritchie fall in this category. A single exposure is capable of causing illness or death. Pesticides in this group affect the central nervous system.
   c. Carbamates - This group of pesticides has a wide range of toxicity, and also affects the central nervous system.
5. BOTANICAL PESTICIDES: Botanical pesticides are highly toxic to mammals, and are absorbed through the skin.
6. RODENTICIDES: Rodenticide may be either organic or inorganic; however, their uses and modes of action are sufficient to justify their consideration as a separate group. Some are formulated from heavy metals and plant products while others are anticoagulants. These chemicals have the advantage of low toxicity.
7. FUMIGANTS: Fumigants are rarely used, and only for specialized problems. Signs will be posted and a full face mask with respirator will be used.
8. HANDLING: Read thoroughly and follow all labeled instructions and precautions.
9. GENERAL SAFETY:
   a. Do not eat or smoke in pesticide handling areas.
   b. Stay up wind while pouring liquid pesticides.

c. Wash hands before eating, smoking, or using the toilet, and after mixing or repackaging.

10. SHOWER: Shower at the end of each shift and frequently rinse exposed skin during pesticide application.

11. FIRST AID:

a. If an accident occurs, immediately remove the victim from the area to prevent continued exposure.

b. Render artificial respiration if the victim is unconscious and not breathing.

c. Obtain medical aid as soon as possible.

12. SAFETY: Safety equipment and clothing for the personal protection of pest controllers will be available and used at all times (i.e. rubber apron, boots, knee pads, gloves and goggles; protective cotton coveralls and cap; safety industrial -gloves, respirator, half mask, and respirator cartridges).

13. PESTICIDE STORAGE:

a. Shop facilities will be maintained in full compliance with EPA and OSHA guidelines.

b. Pest management personnel will be trained and certified in compliance with DOD and DA policies.

14. TRAINING AND CERTIFICATION:

a. Training may be accomplished in this manner.

(1) On-the-job training.

(2) Correspondence courses.

(3) Conference training.

b. Certification: Individuals will attend the three week courses entitled, "Conduct and Evaluation of Military Pest Management" conducted at Fort Sam Houston, Texas, by the U.S. Army Health Services Command. Upon successful completion of the course, the individual will be certified by the Command Entomologist.

15. RECERTIFICATION: Certificates will be valid for a period not to exceed three years. Recertification will require formal training, reexamination and redetermination of the job competence by the Command. Entomologist.

16. STORAGE:

a. All equipment utilized in the program will be thoroughly cleaned and lubricated as required after every use regardless of the duration or extent of use of the equipment. Therefore, the lubrication and cleaning procedures will be stringently followed.

b. Rinse with water or prescribed diluent at least three times. The rinse water will be drained from the storage tank into the containers which held the concentrate. Containers will be marked to. avoid mixing pesticides.

c. Pesticide and used containers will be stored in a secure, dry, well ventilated, single purpose, fire resistant room or building.

d. Herbicides will be stored in a separate area or building.

e. All storage areas will be identified with warning signs in accordance with EPA standards.

f. All sprayers and equipment will be marked, "Contaminated with Pesticides".

g. All pesticide containers will be stored in rows to ensure visibility of the labels. Signs will be posted, indicating the type of chemical within the area. The sign will also contain the common name of the pesticide. Current list of pesticides will be maintained at the Fire Department.

h. Precautions: At high temperatures, chemicals may expand and cause bulging of drumheads and leaks in the containers. High temperatures may reduce the effectiveness of the emulsifiers and hasten the corrosion of containers.

i. Material Safety Data Sheets: Material Safety Data Sheets on all pesticides, herbicides, algaecide, Rodenticide, gases, dusts, dry baits, and fungicides will be maintained on file in the Pest Controller Office. All material data sheets are recorded with the Fort Ritchie Fire Department and Safety Office.

APPENDIX H

PESTICIDE FIRE PREVENTION AND CLEANUP

1. GENERAL:
   a. A fire involving pesticides, as with any-fire involving toxic chemicals, may create unique problems. The usual hazards presented by a fire are compounded by the danger of pesticide poisoning and widespread environmental contamination. Proper planning and training can greatly reduce the personal harm and environmental damage Possible from a fire involving pesticides.
   b. The intent is to assist personnel to deal with fires involving pesticides by presenting general standards of good practice. This section has been prepared to aid installation personnel to prevent, control, and clean up a pesticide fire. This document is not intended to supersede or preclude existing responsibilities and requirements outlined in military component regulations.
   c. A major source of information on the proper handling and storage of those pesticides considered to be flammable or combustible items is The National Fire Protection Association (NFPA) Codes and Standards. These publications are available from our local fire department.
2. PRE-FIRE PLANNING:
   a. General: The success of minimizing the hazard to the health and environment during a pesticide fire will depend upon adequate pre-fire planning. The Installation Spill Contingency Plan (ISCP) will be used so that all appropriate organizations can be notified. The following components will be addressed in the ISCP:
      (1) Facility floor plan.
      (2) Pesticide inventory.
      (3) Access and evacuation routes.
   b. Water Runoff Control: Planning water runoff control is a very important part of pre-fire planning. Contamination of waterways should be prevented.
   c. Salvage/Hazard Evaluation: A salvage versus hazard evaluation is made to decide whether or not to let the facility burn in the event of a fire. This evaluation balances the salvage value of the facility and its contents against the hazard of fighting the fire. Hazards may include widespread contamination by water runoff or toxic fallout from contaminated steam and pesticides. The on-scene commanding officer of the firefighting unit will determine whether or not to let the facility burn.
3. INFORMING EMERGENCY ORGANIZATIONS: A copy of the pre-fire plan and each update will be provided to each emergency organization or service that would be involved in a pesticide fire.
4. BURNING CHARACTERISTICS OF PESTICIDES: While not all pesticides are flammable, they will decompose in the heat of a fire and may release toxic gases, vapors, and smoke. Installation pesticide storage facilities usually store a wide variety of pesticides. Therefore, unless it is known specifically what is burning, it must be assumed that highly toxic substances are being produced.
5. FIRE NOTIFICATION PROCEDURES: When a fire is discovered, all nearby personnel should be alerted and the fire department contacted. The fire should be fought only if it can be done safely; otherwise, evacuation should proceed to an upwind position. When fighting the fire, appropriate personal protective equipment must be worn. Fighting the fire before notification of the fire department is done only if it is certain that the fire can be easily extinguished. Upon receipt of a call, the dispatcher at the fire department will, in addition to the dispatch of fire fighting units, (1) contact

the facility supervisor, (2) contact the spill coordinator, (3) alert medical personnel, and (4) contact military police.

6. PRE FIRE PLAN:

Facility Name: DPW PESTICIDE STORAGE

LOCATION: 3-1335 REILLY STREET, FT BRAGG, NC 28310

Phone Number: (910) 396-7218

Email Address: tommie.wayne.campbell@us.army.mil

EMERGENCY TELEPHONE NUMBERS	DAY	HOME	CELLULAR
Manager's Name: Tommie W. Campbell	907-2160	(910) 884-0410	(910) 286-9903
Ass't Mgr's Name: Alan Abellnosa	396-7218	(910) 904-1155	

APPENDIX J

ENVIRONMENTAL PROTECTION

1. GENERAL:

   a. The action required consists of furnishing all labor, materials, and equipment, and performing all work required for the abatement and prevention of pollution during and as the result of operations under this program. For the purpose of this section, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents, which adversely affect human health or welfare. The control and prevention of environmental pollution requires consideration of impacts upon air, water, land, archeological sites, biological species/habitat and noise control, solid waste management, resources conservation to include management of hazardous or toxic materials, and management of radioactive materials as well as other pollutants.

   b. Technical assistance for complex environmental problems will be coordinated with the Chief, Environmental Sustainment Division, Public Works Business Center, and Fort Bragg, North Carolina.

2. APPLICABLE CRITERIA:

   a. In order to prevent and provide for control of any pollution or environmental problems arising from the activities of this program, the pest controller shall comply with all applicable Federal, state, and local laws, and shall be aware of all regulations concerning environmental pollution control and abatement.

   b. Work will be accomplished within the guidance and limitations established by the following.

      (1) The National Environmental Policy Act of 1969.

      (2) The Clean Air Act as amended.

      (3) The Federal Water Pollution Control Act.

      (4) The Safe Drinking Water Act of 1977.

      (5) Federal Insecticide, Fungicide, and Rodenticide Act.

      (6) The Clean Water Act.

      (7) Toxic Substances Control Act.

      (8) Resource Conservation and Recovery Act.

      (9) Solid Waste Disposal Act.

      (10) 40 CFR 260-270 Hazardous Waste Management System.

      (11) Installation Hazardous Waste management Plan.

      (12) Installation Spill Contingency Plan (ISCP).

      (13) Installation Spill Prevention, Control, and Countermeasure Plan.

      (14) Installation Waste Streams

3. LAND/TIMBER RESOURCES: General - it is intended that the land resources within the reservation boundaries be preserved in their present condition and remain compatible with the adjacent area and not detract from the appearance of the area.

4. WATER RESOURCES:

a. General: The Pest Controller will not discharge any pollutant substance, fuel oil, chemical, waste, or other harmful substance into the storm drainage system, streams, sanitary sewer, or any open body of water or tributary thereof.

b. Hazardous and/or toxic materials include but are not limited to any pesticides or chemical substances which, if not effectively controlled, pose a potential hazard to human health or living organisms because they may be persistent in nature, lethal or may otherwise cause or tend to cause detrimental cumulative effects.

c. The pest controller, when performing activities within the boundaries of Fort Bragg or supported sites in which temporary chemical storage is required, will comply with all requirements and standards as established by federal, state, and local agencies.

   (1) Storage containers will be of an approved material in good condition and clearly labeled as to their contents, with appropriate warning labels as required.

   (2) The storage facility will not be placed any closer than 50 meters to any drainage way or open body of water.

APPENDIX K

SPILL KIT CONTENTS

A spill kit is required to be assembled and placed in locations where pesticides are mixed, and on vehicles which transport pesticides [AR 420-76 4-le (1)]. There are two versions of pesticide spill kits, a shop kit and a vehicle kit. The components of these kits are specified in "Pesticide Spill Prevention and Management", Technical Information Memorandum No. 15, Appendix A. Spill kits should be assembled, clearly marked, and placed in a location which is readily accessible. All employees should be familiar with the contents of this kit and trained in the techniques required to properly contain and cleanup a spill.

Shop Kit Quantity	Vehicle Kit Quantity	Item
1 (55 gal)	1 (5 gal)	open-head drum
1	1	set of instructions (with emer. #)
4	2	pairs of neoprene gloves
2	1	pairs of unvented goggles
2	1	respirator and pesticide cartridges
2	1	aprons (chemical resistant)
2	1	pairs of rubber boots
2	1	pairs of 100% cotton coveralls
1	1	Dustpan
1	1	shop brush
12	6	heavy ply, polyethylene bags w/ties
1	1	first aid kit
80	10-30	lbs absorbent material
1 (gal)	1 (pt)	liquid detergent
1	1	dozen blank labels
	I	portable eyewash
1		18" pushbroom, synthetic fibers
3		gallons household bleach
1		25 ft garden hose or 30 ft 1/2" polyethylene tubing
		square-point "D" handle shovel
1*		bung wrench
1*		drum spigot
1*		1-3/8" open-end wrench
1*		drum pump (manual)
1*		bung 2-1/21'
1*		bung 3/41,
*NOTE: These items are only required if bulk liquid pesticides are purchased or stored, in 30 gallon or larger containers.		

APPENDIX L

PESTICIDE DECONTAMINANTS

1. Depending on the particular pesticide, chlorine bleach, caustic soda (sodium hydroxide-lye), or lime can be used to neutralize most spills. Many pesticides, especially the organophosphates, neutralize when treated with lye or lime. Fewer pesticides are decomposed by bleach. Other pesticides cannot be effectively neutralized and should only be treated with detergent and water. Some examples of common pesticides that can be neutralized are listed below.

LYE or LIME	**CHLORINE BLEACH**
Propoxur	Calcium Cyanide
Captan	Chlorpyrifos
Carbaryl	
Diazinon	
Naled	
Malathion	
Rotenone	
Dimethoate	

Do not use any decontamination chemicals for the following: Methoxychlor

2. CAUTION: Caustic soda (lye) can cause severe eye damage to persons not properly protected. Always wear goggles, long sleeve work clothes with coveralls, neoprene gloves, and chemical resistant apron and an approved respirator.
3. MIXING DIRECTIONS: Mix 0.75 pounds of lye or lime in 3.5 quarts of water to make two gallons of 10 percent solution.

APPENDIX M

PESTICIDE AND CONTAINER DISPOSAL

1. GENERAL:
   a. Pesticide disposal is a variable and involved procedure and pending adequate guidelines, each operation will be considered separately.
   b. Chemicals and chemical products will be disposed of or destroyed in a manner which is compatible with their physical, chemical, and toxic properties that will minimize environmental impact and disposal cost. All disposal will be in accordance with EPA, state, and local air, water, and hazardous/toxic pollution standards.
   c. Pesticides and containers which are excess because of unserviceability, registration, cancellation, or other reasons may be disposed of as directed by the declaring agency. This may be as designated by the state in which the disposal occurs and as -approved by EPA.
   d. If the registration of any pesticide has been suspended or finally cancelled by EPA, DA organizations, activities and/or supplementing agencies will not use such products.
   e. Any pesticide which the Armed Forces has determined to be obsolete must be disposed of in accordance with the directive declaring the obsolescence. Obsolete or unsatisfactory equipment must be reported to the appropriate agency for direction on disposal or turn in.
   f. If the proper disposal of any chemical product or container is uncertain, guidance for disposal will be requested by contacting the following:
      (1) The agency responsible for the directive necessitating the disposal of a specific item of equipment or chemical product.
      (2) USATHAMA, ATTN: PMPMD**,** Aberdeen Proving Grounds, MD 21010.
   g. Requests for disposal guidance will include the following:
      (1) National Stock No.
      (2) Full nomenclature.
      (3) Appropriate military specification or standard indicated on the label/MSDS.
      (4) Quantity of issue.
      (5) Total quantity requiring disposal (pounds, gallons, etc.).
      (6) Condition of container(s).
   h. Installations and activities who are responsible for disposing of hazardous chemicals will maintain a hazardous waste disposal manifest indicating the following:
      (1) The chemical disposed of (full nomenclature).
      (2) Quantities disposed.
      (3) Source of chemical.
      (4) Disposal method used and disposal site.
      (5) Date disposal occurred.
2. PESTICIDE CONTAINER DISPOSAL GUIDELINES:
   a. Emulsible concentrate metal containers.

(1) Step I - Empty containers in the normal manner and allow to drain for one minute into the spray or mix tank.

(2) Step 2 - First rinse

(a) Use the correct amount of water.

Rinse Solution	
Container Size	**Rinse volume**
less that 1 gallon	1/4 of container volume
1 gallon	1 quart
5 gallons	2 quarts
15 gallons	1.5 gallons
30 gallons	3 gallons
55 gallons	5 gallons

(b) Replace closure.

(c) Rotate and upend container to get rinse over all interior surfaces.

(d) Drain rinse into the spray or mix tank.

(3) Step 3 - Second rinse

(a) Repeat steps 2a through 2c above.

(b) Puncture head of the metal container near the edge adjacent to the pour spout and drain the rinse into the spray or mix tank. If the container is to be recycled or reconditioned, do not puncture.

(4) Step 4 - Third rinse

(a) Repeat Step 2 but gently rotate the drum to rinse interior of the container being careful not to spill the rinse.

b. Metal containers up to and including 5-gallon size:

(1) Allow rinsed container to drain for one minute into the spray or mix tank.

(2) Crush the rinsed container and dispose of it in accordance with federal, state, and local standards or recycle.

(3) Small quantity containers will be disposed of through Defense Reutilization and Marketing Office (DRMO) where applicable.

c. Metal containers, 15-22 gallons capacity.

(1) Allow the rinse container to drain for one minute into the spray or mix tank.

(2) Crush the rinsed container and dispose of it in accordance with federal, state, and local standards or recycle.

(3) Small quantity containers will be disposed of through DRMO where applicable.

(4) Replace all closures, accumulate rinsed drums in a secure area and recycle for reconditioning, return to a pesticide manufacturer or formulator for refilling with the same chemical class of

pesticide providing such return and reuse is legal under existing U.S. Department of Transportation regulations, or recycle as scrap metal.

d. Technical grade metal containers.

(1) Step 1 - Empty container should be allowed to drain for one minute into the spray tank.

(2) Step 2 - Replace closures.

(3) Step 3 - Accumulate unrinsed empty drums in a secure area and store pending receipt of DOD disposal instructions with' EPA confirmation, return empty drums to be reconditioned to a pesticide manufacturer or formulator for refilling with the same chemical class of pesticide as previously contained provided such return and refilling is legal under existing U.S. Department of Transportation regulations, or recycle as scrap metal through a metal reclaiming firm having EPA and state approved burning equipment suitable for incineration of pesticides.

e. Specified containers (bait, dust, aerosol, and granule).

(1) Step 1 - Empty the container in the normal manner.

(a) Residue should be completely removed from bait, dust, and granule containers.

(b) Aerosol containers should be completely expended.

(2) Step 2 - Crush container with the exception of aerosol containers.

(3) Step 3 - Dispose of container in conformance with existing standards.

NOTE: In expending aerosol containers, some propellant usually remains. This propellant can be ignited if a large quantity of aerosol cans are crushed in the presence of open flame or high heat source, i.e., operation engines. Never store spent cans for simultaneous disposal - dispose of them singly or in quantities of no more than six cans.

f. Water wettable powder containers (metal and paper):

(1) Step 1 - Empty containers in the normal manner.

(2) Step 2 - Rinse container three times, each time using a volume of water equal to approximately 10 percent of the container capacity, i.e., for a 5 gallon container, use 2 quarts of rinse and add the rinse water to the spray tank. This rinse water should be calculated as part of the required diluents.

(3) Step 3 - Rinsed metal containers can be crushed and sold as scrap metal if applicable with existing standards.

g. One gallon oil solution ready mix containers:

(1) Step I - Empty container in normal manner.

(2) Step 2 - Puncture top of metal container near the edge adjacent to the pour spout and allow to drain for 5 minutes into the spray tank. If cans are to be returned to pesticide manufacturer or formulator, do not puncture.

(3) Step 3 - The empty container may be crushed and disposed of in an approved manner in conformance with federal, state, and local standards.

3. Repackaging of liquid pesticides and disposition of empty containers.

a. Observe prescribed safety procedures during all operations to prevent spilling and exposure of personnel to -pesticides.

b. Do not combine pesticides during repackaging.

c. Leaking containers will be repackaged under the supervision of certified pest controller. Leaking containers will be emptied into an approved container only (as directed in paragraph 2, above) and distinctly labeled as noted below.

d. Labeling containers of unserviceable pesticides (diluted or undiluted) and rinse solutions.

(1) Marking shown on one side of container will not occupy more than the upper one-third of the side. The label will include the following data:

(a) "Waste Material Not Approved For Use" (verbatim).

(b) Federal Stock Number - indicate repackaged.

(c) Nomenclature and percentage.

(d) Type and quantity of rinse solution added to repacked container.

(e) Total quantity in gallons.

(f) Level of protection and date packaged (by month/year).

(g) Gross weight.

(2) Marking shown on drumhead or ends will not be removed in order to use contents.

(a) "Waste Material Not Approved For Use" (verbatim).

(b) Federal Stock Number - indicate repackaged.

(c) Total quantity.

e. Labeling containers of serviceable pesticides.

(1) Marking shown on one side of container shall not occupy more than the upper one third of the side. The label will include the following data:

(a) Federal Stock Number - indicate repackaged.

(b) Nomenclature and percentage.

(c) Total quantity in gallons.

(d) Date packaged (by month/year).

(e) Gross weight.

(2) Markings shown on drumheads or ends will not be removed in order to use contents (applies to 35 and 55 gallon drums only).

(a) Federal Stock Number - indicate repackaged.

(b) Nomenclature and percentage.

(c) Total quantity in gallons.

(d) Date packaged (by month/year).

(e) Gross weight.

f. In order for repackaged pesticides to be considered serviceable, returned to the supply system, transferred or sold for use as originally intended, an additional label which conforms with the original EPA or USDA registered label to include the registration number must be attached. If the

item does not have an EPA or USDA registered label, the additional label must conform to the labeling instructions contained in the original military or Federal specifications for each line item.

4. Store unserviceable repackaged pesticides only with other unserviceable pesticides and hold pending disposal instructions
5. Store serviceable repackaged pesticides -Only with other serviceable pesticides and use for intended purposes.

APPENDIX N

PESTICIDE INVENTORY

FORT BRAGG, NORTH CAROLINA

B. HERBICIDES

PHONE: 907-2160 , BUILDING 3-1335 DATE _____

PRODUCT NAME: MANUFACTURER: NSN: FORMULATION:	SIGNAL WORD: EPA#: ACT INGRED: %ACT INGRED:	CONTAINER TYPE: AMOUNT ON-HAND:	MSDS PRESENT: IF NOT, STATUS?	ANNUAL AMOUNT USED

B. HERBICIDES, PWBC

APPENDIX O

DOD & STATE CERTIFIED PESTICIDE APPLICATORS

NAME	CERT. NUMBER	EPA CATEGORIES	MEDICAL	HAZCOM	EXP DATE
Tommie Campbell	A181-85-0708	3, 5, 6, 7 & 8	yes	yes	Jul 011

DPW FACILITIES AND GROUNDS

Alan Abellnnosa	A307-98-1200	2, 3, 5, 6 & 8	yes	yes	Dec 09
Sharrod Hairston	A-303-01	3, 5, & 6	yes	yes	Dec 09
Debra White	A-236-07	3, 5, & 6	yes	yes	Sep 10
Willie J. Hodges	A-13104	3, 5, & 6	yes	yes	Mar 10

JSOC

John Pignelli	A-14104	2, 3, 5, 6, 7 & 8	yes	yes	Mar 10
David G. Muffet	A-009-05-1007	2, 3, 5, 6, 7 &8	yes	yes	Sep 10

DPW ENVIRONMENTAL DIVISON (FORESTRY BRANCH)

John McFadyen	A397-99-0708	2, 3, 5, & 6	yes	yes	Jul 11
Ralph Locklear	A-069-06	2, 3, 5, & 6	yes	yes	Mar 09
Jason Monroe	A-071-06	2, 3, 5, & 6	yes	yes	Mar 09
Lesley Bennett	A-310-01-0404	2, 3, 5, & 6	yes	yes	Jul 10
Paul Hinkle	A-064-06	2, 3, 5, & 6	yes	yes	Mar 09
Michael Surette	A-093-07	2, 3, 5, & 6	yes	yes	Mar 10

DPW ENVIRONMENTAL DIVISION (Endangered Species)

Brian Ball	A-060-06	2, 3, 5, & 6	yes	yes	Mar 09
Charles Ball	A-061-06	2, 3, 5, & 6	yes	yes	Mar 09
Kevin Crawford	A-062-06	2, 3, 5, & 6	yes	yes	Mar 09
Amy Young	A-074-06	2, 3, 5, & 6	yes	yes	Mar 09

DPW ENVIRONMENTAL (Wildlife Branch)

Ronnie C. Brown	**A-650-97-0703**	**2, 3, 5, & 6**	**yes**	**yes**	**Jan 10**

APPENDIX P

INSTALLATION POINTS OF CONTACTS
(As of 02 February 2009)

FORT BRAGG POSTIONS	COMM	DSN
(910) 907- XXXX	337- XXXX	
(910) 396- XXXX	236- XXXX	
(910) 432- XXXX	239- XXXX	

Gregory G. Bean 6-4009
Directorate of Public Works
Fort Bragg, NC 28310-5000

Steve Blackburn 6-8121
Chief, Fire and Emergency Services
Fort Bragg, NC 28310-5000

David Heins 6-8207
Chief, Environmental Division
Fort Bragg, NC 28310-50000

Tommie W. Campbell 7-2160
Installation Pest Management
Fort Bragg, NC 28310-5000

Mr. Alan Abellanosa 6-7218
Supervisor, Ground Section
Facility Maintenance Division

APPENDIX Q – PROGRAM RESOURCES

The installation is supported by a number of people who are always ready to give support to the program, including the North Carolina Department of Agriculture. Others who give support are as follow, Preventive Medicine, Environmental/Natural Resources Division, OMD Ground's section. Our current pest control company Canady's Services. All these individuals are a contributing factor to the Integrated Pest Management Plan at Fort Bragg.

APPENDIX S

SPILL REPORTS
(SAMPLE)

OIL AND HAZARDOUS SUBSTANCE SPILL NOTIFICATION INFORMATION

The following information will be provided following the discovery and initial telephonic reporting of the spill:

1.	Time spill occurred or was first observed:
2.	Name of person first observing spill:
3.	Location of initial spill and present location if moving:
4.	Type of spilled material:
5.	Estimate of amount spilled or rate of release if continuing:
6.	Environmental conditions e.g., wind direction and speed, wave action, and currents:
7.	If from mobile container e.g., pod, tanker, railway tanker -- identify of vehicle, unit, owner (if other than the U.S. Army), and capacity:
8.	Description of area likely to be affected by spill -- e.g., riverbanks, lakes, land areas, wildlife areas:
9.	Cause of spill, if determined:
10.	Action taken to combat spill, if any:
11.	Activities or authorities notified:

APPENDIX T

OTHER FEDERAL CANDIDATE AND STATE PROTECTED SPECIES

Table 3 (Weakley 1993) is a list of state protected and federal candidate faunal species that are both known to occur and may occur on Fort Bragg and Camp Mackall. Those species which may occur are listed below due to the presence of suitable habitat. Systematic surveys have not been conducted to confirm or refute the presence of these species. Table 4 (Weakley 1993) is a compilation of the federal candidate plant species, and the species' state status if afforded state protection. These tables are provided for information purposes as Army Regulation 200-2 requires consideration of federal candidate and state listed species in all Army actions.